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# FINAL ENVIRONMENTAL IMPACT STATEMENT

## GRAZING MANAGEMENT McGREGOR EIS AREA, NEW MEXICO



U. S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
LAS CRUCES DISTRICT OFFICE

SEPTEMBER, 1980

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This is the Final Environmental Impact Statement (FEIS) for the proposed McGregor Range grazing management program. The Draft Environmental Impact Statement (INT. DEIS 80-23) was filed with the Environmental Protection Agency on April 18, 1980. Since responses to comments received on the DEIS did not require significant changes in data or analyses, the DEIS was not reprinted in full. This FEIS incorporates the DEIS by reference, and includes all written and oral comments received during public review, the responses to those comments, and additions and corrections to the DEIS text resulting from public review. The DEIS and this FEIS together constitute the complete Final Environmental Impact Statement.

A limited number of copies of the DEIS are available from the BLM Las Cruces District Office, P.O. Box 1420, Las Cruces, New Mexico 88001.

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ENVIRONMENTAL IMPACT STATEMENT  
ON  
GRAZING MANAGEMENT IN THE  
McGREGOR EIS AREA

Type of Action:  Administrative  Legislative

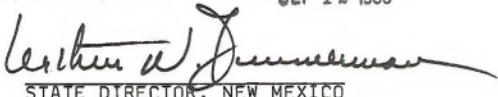
Abstract: This Environmental Impact Statement discusses the Bureau of Land Management's proposed grazing management program and six alternative management programs for the Co-use area within the 515,000-acre McGregor Range (withdrawn by the U.S. Army) in Otero County, New Mexico. The proposed action involves the construction of improvements, and increased grazing on 271,000 acres.

- Alternatives Analyzed:
- a. No action (continue existing program)
  - b. Discontinue livestock grazing
  - c. Add grazing in Area A
  - d. Change grazing season to October-March
  - e. Change grazing season to October-March and reduce grazing
  - f. Reduce grazing on Pastures 3, 4 and 5 and provide for summer grazing.

Contact for this EIS: Ed Webb  
BLM, Las Cruces District Office  
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Las Cruces, New Mexico 88001  
Phone: (505) 524-3603  
FTS 572-0209

Comments have been requested from: See Part 1.

Date Filed with EPA: Draft: April 18, 1980 Final: SEP 12 1980

  
ESTHER A. ZIMMERMAN  
STATE DIRECTOR, NEW MEXICO

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TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	v
PART 1. CONSULTATION AND COORDINATION	1
Preparation of the Draft Environmental Impact Statement	1
Coordination in the Review of the Draft Environmental Impact Statement	4
Comments on the Draft Environmental Impact Statement	7
Summary of Comments	7
Other Coordination	9
Preparation of the Final Environmental Impact Statement	10
Letters	
1. New Mexico State Planning Division	11
2. Richard Spellenberg	12
3. New Mexico Highway Department	13
4. Texas Air Control Board	13
5. Environmental Protection Agency	14
6. Corps of Engineers	15
7. National Park Service	15
8. Bruce King, Governor of New Mexico	16
9. Office of Governor of Texas	16
10. Texas Department of Water Resources	17
11. University of Texas at El Paso	17
12. Department of the Army, Ft. Bliss	18
13. Advisory Council on Historic Preservation	21
14. El Paso Archaeological Society	26
15. New Mexico Peace Conversion Project	33
16. Otero County Wildlife Federation	35
17. Soil Conservation Service	36
18. Mr. & Mrs. W. F. Martin	36
19. Wildlife Society	37
20. U.S. Fish and Wildlife Service	39
21. New Mexico Range Improvement Task Force	43
22. Heritage Conservation and Recreation Service	64
23. U.S. Forest Service	65
24. New Mexico Dept. of Agriculture	66
25. State Clearinghouse, New Mexico State Planning Division	68
26. New Mexico Natural Resources Department	68
27. New Mexico Fish and Game Department	69
28. National Council of Public Land Users	70
29. Human Systems Research	71
30. State Historic Preservation Officer (2 letters)	74
31. Department of the Army, Office of the Asst. Secretary	77

	<u>Page</u>
PART 2. MODIFICATIONS AND CORRECTIONS TO THE DEIS	79
Errata	79
Chapter 1	
DEIS page 1-1	81
DEIS page 1-11	82
Chapter 2	
DEIS page 2-1	83
DEIS page 2-15	84
DEIS page 2-23	85
DEIS page 2-25	86
DEIS page 2-43	87
DEIS page 2-45	88
DEIS page 2-46	89
Chapter 3	
DEIS page 3-22	90
DEIS page 3-24	91
DEIS page 3-35	92
DEIS page 3-36	93
Chapter 8	
DEIS page 8-28	94
Chapter 9 <u>a/</u>	
Appendix G	
DEIS page A-32	95
Appendix H	
DEIS page A-38	96
DEIS page A-39	97
DEIS page A-40	98

List of Tables in Final Environmental Impact Statement b/

Exhibit B Significant long-term impacts of proposed action and alternatives.....	vii
Table 1 List of preparers.....	2
Table 2 BLM reviewers and contributors.....	2
Table 3 Index to letters and comments.....	8

List of Figures in Final Environmental Impact Statement

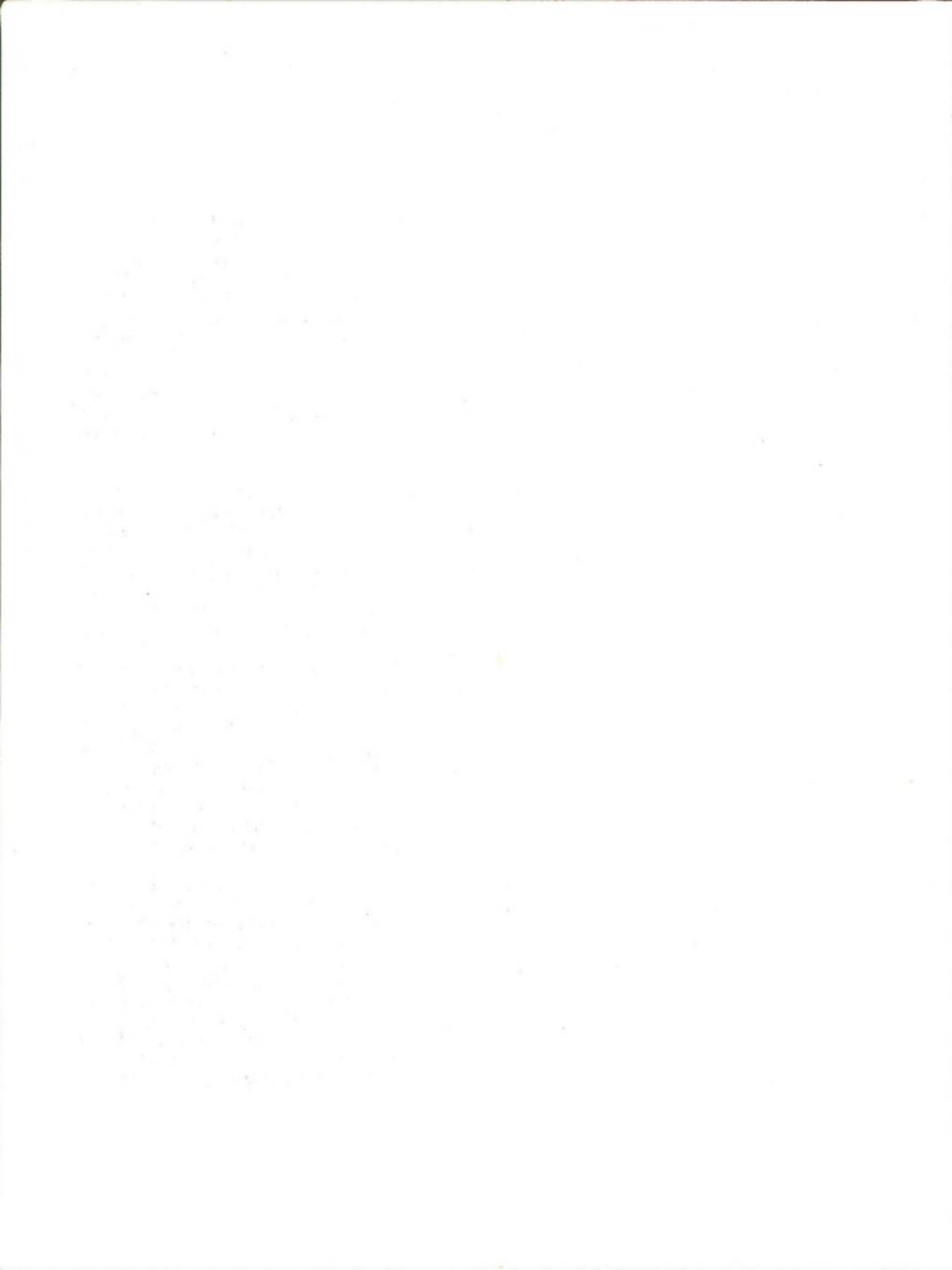
Exhibit A MCGREGOR EIS area.....	vi
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a/ Chapter 9 of the DEIS has been replaced in its entirety by Part 1 of the FEIS.

b/ Tables are included on the corrected pages provided in Part 2 of the FEIS. The modified Table 2-8 appears on p. 86. A new Table, G-5, appears on p. 95.

# SUMMARY



## SUMMARY

### SUMMARY

Proposed action. The Bureau of Land Management (BLM) proposes to implement a grazing management program for continued grazing on 271,000 acres in a Co-use area that lies within the Army-controlled McGregor Range in Otero County, New Mexico (EIS area, Exhibit A). The proposed action includes construction of new water supplies, increased utilization of key forage species, and an expanded range monitoring program. Forage for livestock grazing would continue to be sold by competitive bidding at a public auction. Livestock grazing would increase from the current 42,060 animal unit months (AUMs) to 57,230 AUMs by 1992, and would continue to be utilized on 14 pastures during a nine-month season (October to June). Deer and antelope grazing within the 14 pastures would increase from an estimated 2,793 to the optimal population, which is 4,032 AUMs. The current policy of non-grazing on 244,000 acres of the Co-use area would remain in affect.

Existing environment. McGregor Range contains mountain foothills, canyons, mesas, a mesa rim, alluvial fans, and desert basins. The vegetation, which includes desert and mountain shrubs, short grasses, and pinyon-juniper woodlands, is subject to light utilization by grazing animals, and is generally in good to fair condition. Concentrations of cattle have caused deterioration in range condition near existing water supplies. Far from water, plants are stagnating due to light utilization. Soils are generally sandy or gravelly, and rock outcrops are common. Natural rates of wind and water erosion are substantial. Water supplies come from pipelines, wells, and surface reservoirs. Quantity and quality is adequate for livestock use. The limited livestock use has resulted in a diverse wildlife population, including approximately 3,730 deer, about 253 antelope, and a variety of small mammals, game birds, other birds, and reptiles. Cultural resource sites reflect many periods of habitation, and include camps, villages, work areas, rock art, and ranches. Erosion is the most significant agent causing deterioration of these sites. Three parcels of land containing 28,560 acres are being evaluated as potential Wilderness Study Areas. Present land uses within the Range are limited to military activities, grazing, wildlife, and some hunting. Annual income to the livestock industry from use of the Range is estimated to average \$994,800.

Impacts from the proposed action. The most significant quantifiable impacts from the proposed action are summarized in Exhibit B. They include changes caused by: a) construction of improvements; b) decreased grazing near existing water supplies; c) increased grazing near new water facilities; and d) increased forage utilization. Impacts which are not quantified, but which would be significant, include a decrease in the amount of plant litter, and an increase in plant vigor. Wildlife populations would generally be maintained or enhanced, and recreation opportunities related to hunting also would increase. Trampling and erosion of cultural resources would increase near new water facilities, but effects would be mitigated by design features of the proposed action. There would be no significant impacts to visual resources, wilderness, or transportation.

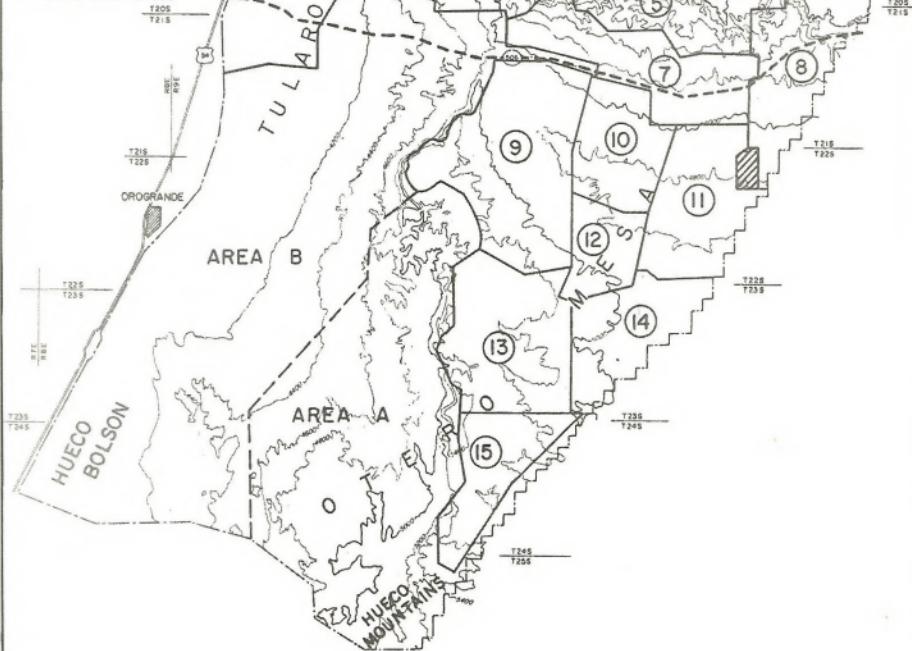
**EXISTING PASTURES**

	ACRES
1 LANGFORD PASTURE	31,000
2 COX WELL PASTURE	25,000
3 CULP PASTURE	32,000
4 LEE PASTURE	13,000
5 CRESSGARDEN PASTURE	20,000
7 RUTHERFORD PASTURE	19,000
8 DAGGER PASTURE	17,000
9 MESA HORSE CAMP	31,000
PASTURE	
10 WINGFIELD PASTURE	12,000
11 MARY TEE PASTURE	18,000
12 HERO PASTURE	8,000
13 MARTIN TANK PASTURE	20,000
14 ANTELOPE PASTURE	12,000
15 SHILOH PASTURE	13,000

**OTHER AREAS**

AREA A	84,000
AREA B	160,000
HORSE PASTURE (NOT INCLUDED IN BLM PROPOSAL)	

---STATE HIGHWAY 606



CONTOUR INTERVAL 200 FEET

1 0 2 3 4  
SCALE IN MILES

McGREGOR EIS AREA

Exhibit A

**EXHIBIT B. SIGNIFICANT LONG-TERM IMPACTS OF THE PROPOSED ACTION AND THE SIX ALTERNATIVES**

RESOURCE	PROPOSED ACTION Expand grazing in existing pastures	ALTERNATIVE A No action (continue exist- ing program)	ALTERNATIVE B Discontinue grazing	ALTERNATIVE C Add grazing in Area A	ALTERNATIVE D Change grazing season to Oct.- March	ALTERNATIVE E Change grazing season to Oct.- March and reduce grazing	ALTERNATIVE F Reduce grazing in Pastures 3, 4, 5 and provide for summer grazing
GRAZED ACREAGE	271,000	271,000	none	355,000	271,000	271,000	225,000
UNGRAZED ACREAGE	244,000	244,000	515,000	160,000	244,000	244,000	290,000
AVERAGE CATTLE AUMS b/	57,230	42,300	0	68,933	57,230	38,153	49,335
ECONOMIC BENEFITS TO LIVESTOCK INDUSTRY	\$ 1,493,700	\$ 994,800	none	\$ 1,799,100	\$ 1,493,700	\$ 995,800	\$ 1,287,700
CONSTRUCTION COSTS b/	\$ 1,388,673	\$ 498,960	none	\$ 2,621,873	\$ 1,388,673	\$ 1,388,673	\$ 984,294
ANNUAL OPERATING COSTS b/	\$ 135,000	\$ 115,000	none	\$ 135,000	\$ 135,000	\$ 135,000	\$ 135,000
AVERAGE DEER AUMS b/ c/	3,597	2,633	1,799	5,096	3,597	3,597	3,597
AVERAGE ANTELOPE AUMS c/	435	160	160	435	435	435	435
ACRES OF VEGETATION AND HABITAT ELIMINATED	97	0	0	162	97	97	72
ACRES OF DOWNWARD TREND STABILIZED (S) OR REVERSED (R)	S: 4,400	0	R: 4,400	S: 4,400	0	S: 4,400	S: 2,100 R: 2,300
ACRES CHANGING ONE CONDITION CLASS DOWNWARD	4,425	0	0	5,075	8,850	4,115	2,125
HERBAGE YIELDS, POUNDS/ACRE/YEAR b/	502	560	502	502	502	560	502
PLANT COVER, PERCENT	20.4	20.5	20.6	20.3	20.3	20.5	20.5
WIND EROSION, MILLION TONS PER YEAR	22.0	21.6	21.2	22.2	22.5	21.6	21.6
SEDIMENT YIELD, ACRE-FEET PER YEAR	319.1	303.9	289.4	325.2	334.3	303.9	303.9
SOIL STRUCTURE ALTERED, ACRES	800	7	0	970	1,600	720	490
WATER USE, ACRE-FEET PER YEAR	135	86	77	165	140	119	126
ACRES RATED SUITABLE FOR LIVESTOCK	242,900	229,650	0	326,900	242,900	242,900	216,400

a. All costs paid from income received by BLW from sale of forage on McGregor Range.

b. Values reflect conditions in existing fourteen pastures. All other numbers in Exhibit B reflect conditions in entire Co-use area.

c. Assumes optimal populations will be reached.

## SUMMARY

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Unavoidable adverse impacts. Near new water facilities, range condition would go down by one class on 4,425 acres, and soil compaction would occur on 800 acres. These changes would cause decreases in plant cover and increases in soil erosion, as shown in Exhibit B.

Short-term uses; long-term productivity. The proposed action would improve livestock distribution on McGregor Range, and would result in a balance between the sustained yield and consumption of forage. These gains would have economic benefits to the livestock industry, and would be associated with stabilization of range condition near existing water supplies. The environmental costs of the proposed action include deterioration of range condition near new water supplies, and associated changes in plant cover and soil erosion.

Irreversible commitments of resources. Permanent resource commitments would include: 97 acres of productive land to be used for range improvements; wind erosion of 0.4 million tons of soil per year (in addition to natural erosion); water erosion of 15.2 acre-feet of soil per year (in addition to natural erosion); increased trampling and erosion of cultural resources; and investments of funds and materials.

Alternatives. The impacts of the six alternatives are compared to the proposed action in Exhibit B. Alternative A would take no action, thus continuing the existing program. There would be no increase in forage use on McGregor Range and continued deterioration of range condition near existing water supplies. Alternative B would discontinue the grazing program, eliminating livestock use on McGregor Range. Range condition would improve, but the vegetation would stagnate. Erosion would be reduced, and deer populations would be adversely affected. The rate of deterioration of cultural resources would be slowed. Alternative C would expand the proposed action by providing improvements and grazing on 84,000 acres in Area A (Exhibit A). This would add 11,703 additional livestock AUMs. Impacts would be similar to those of the proposed action, but would be greater in magnitude due to the increased area affected. Alternative D would implement the proposed action, but would change the grazing season to October-March. This would benefit cool-season plants, which are a relatively minor part of the plant community. The number of cattle on the Range during the abbreviated grazing season would double compared to present levels, which would cause substantial adverse impacts near all water facilities. These impacts are quantified in Exhibit B. Alternative E would implement the construction program of the proposed action, change the grazing season to October-March, and reduce AUMs to 38,153, which is less than at present. Range condition would benefit from the reduced grazing, and economic benefits would be foregone. Alternative F would eliminate grazing in the northern upland parts of the 14 pastures, while providing summer grazing elsewhere to improve forage utilization. Impacts would be similar to those from the proposed action, except in the northern pastures, where the benefits and adverse effects of the existing grazing program (and the proposed action) would be eliminated.

# **PART I**

## **CONSULTATION AND COORDINATION**



PART 1. CONSULTATION AND COORDINATION a/

The McGregor Range Environmental Impact Statement (EIS) was prepared by Lee Wilson and Associates, Inc. of Santa Fe, New Mexico, under contract to and in conjunction with the Bureau of Land Management (BLM). A list of persons involved in the preparation of the EIS is provided in Table 1. BLM reviewers and contributors are listed in Table 2.

PREPARATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

BLM published a Notice of Intent to Prepare an Environmental Impact Statement in Volume 44, number 102 of the 24 May, 1979 Federal Register pp. 30171 to 30172. A copy of the Notice of Intent was sent to the New Mexico State Planning Division. A Public meeting was held in Alamogordo on June 28, 1979. Announcement of that meeting was publicized in local newspapers in June 1979. At the meeting, the Bureau solicited public information, concerns, problems and issues for possible inclusion in the impact statement. No formal statements were submitted at the meeting. No subsequent correspondence was received.

The McGregor EIS team formally organized in June 1979. Work on the Draft Environmental Impact Statement (DEIS) began on June 26, 1979. Ft. Bliss personnel escorted team members on extensive ground tours of the Range and an air tour was arranged prior to field work which was conducted from July to mid-August. Writing of the DEIS commenced in late August; the document was published in April, 1980. During preparation of the document, the EIS team sought expertise and opinions from local, State and Federal agencies, as well as universities and private individuals. Communications varied from formal written comments to informal personal contacts. Letters from the U.S. Fish and Wildlife Service and the New Mexico State Historic Preservation Officer are cited in the DEIS. The full text of these letters is provided in Appendix H of the DEIS. A summary of additional contacts and comments follows.

FEDERAL AGENCIES

U.S. Department of the Army, Fort Bliss, Texas

Glenn Degarmo, Environmental Officer: furnished information on cultural resources; expressed concern for preservation of Oliver Lee pipeline.

Pete Atkins, Provost Marshall's Office: furnished historic information on the Range and the local area; provided information about hunting on the Range; discussed creosote increase.

James W. Conyers, Jr., Chief, Environmental Protection Office: furnished water rights information.

Kevin von Flinger, Ecologist: furnished information on animal species adjacent to the study area and statistical information on Range fires.

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a/ Part 1 of the Final Environmental Impact Statement replaces Chapter 9 of the Draft Environmental Impact Statement.

TABLE 1. LIST OF PREPARERS

NAME	EIS RESPONSIBILITY	EDUCATION
<u>PRIMARY CONTRACTOR</u>		
Lee Wilson	Preparation of EIS	Ph.D., Geology Columbia University
Stevan T. Anderson	Physical setting, soils, visual resources	M.A., Geography University of New Mexico
Catherine Callahan	Editorial	M.S., Regional Planning and Environmental Studies University of Wisconsin
Ann Claassen	Water	B.A., Biochemistry The Colorado College
Carole R. Cristiano	Wilderness, recreation, transportation, land use, socio-economics	M.U.A., Urban Affairs University of Colorado
Diane Fanelli	Editorial	B.S., Social Work University of Wisconsin
Diane Flock	Socio-economics	B.A., Urban Geography University of Kansas
Dave Jenkins	Water	B.A., Geology Southern Illinois University
Gail McGough	Water	B.A., Chemistry University of New Mexico
<u>SUBCONTRACTORS</u>		
B. L. Allen	Soils	Ph.D., Soils Michigan State University
Bill Dahl	Vegetation	Ph.D., Range Management University of Idaho
Leroy Daugherty	Soils	Ph.D., Soils Genesis Cornell University
Leland Gile	Soils	M.S., Soils University of Wisconsin
Ken Lord	Cultural Resources	Ph.D. program, Archaeology, University of Texas at Austin
Russ Pettit	Vegetation	Ph.D., Range Management Oregon State University
Ronald Sosebee	Vegetation	Ph.D., Plant Physiology Utah State University
Al Ward	Cultural resources	M.S., Anthropology University of Arizona

Source: Lee Wilson and Associates, Santa Fe, NM.

TABLE 2. BLM REVIEWERS AND CONTRIBUTORS

NAME	POSITION	BLM OFFICE
Edward L. Webb	Contracting Officer's Authorized Representative	Las Cruces, New Mexico
Thomas Birch	Watershed/Range Specialist	Las Cruces, New Mexico
Don G. Boyer	Writer/Editor	Santa Fe, New Mexico
Bruce G. Call	Soil Scientist	Las Cruces, New Mexico
Beverly Cochran	Sociologist	Santa Fe, New Mexico
Leo Flynn	Archaeologist	Santa Fe, New Mexico
Herbert Garn	Hydrologist	Santa Fe, New Mexico
Rene A. Gutierrez	Writer/Editor	Las Cruces, New Mexico
Kenneth Holmes	Wildlife Specialist	Las Cruces, New Mexico
Elizabeth J. Kupper	Environmental Specialist	Santa Fe, New Mexico
Pete Lujan	Archeologist	Las Cruces, New Mexico
William Leifeste	Chief, Division of Resource Mgmt.	Las Cruces, New Mexico
Gary B. Marsh	Outdoor Recreation Planner	Las Cruces, New Mexico
William Methwig	Range Conservationist	Las Cruces, New Mexico
Duane D. Michael	Range Specialist	Santa Fe, New Mexico
Geoffrey B. Middaugh	Recreation Specialist	Santa Fe, New Mexico
Larry Nunez	Area Manager	Las Cruces, New Mexico
Candace N. Ojala	Archaeologist	Las Cruces, New Mexico
Teodoro Rael	Regional Economist	Santa Fe, New Mexico
Daniel C. B. Rathbun	District Manager	Las Cruces, New Mexico
Verlyn D. Saladen	Soil Scientist	Santa Fe, New Mexico
Donna Sparks	Division of Rangeland Mgmt. Staff	Washington, D.C.
Lee L. Ucham	Wildlife Biologist	Santa Fe, New Mexico
Karen Way	Archaeologist	Las Cruces, New Mexico
John W. Whitney	Environmental Coordinator	Santa Fe, New Mexico
Dan Wood	Wilderness Specialist	Santa Fe, New Mexico

Source: Bureau of Land Management, Las Cruces District.

U.S. Geological Survey, Albuquerque, New Mexico  
Doug Posson, Chief, Computer Section: furnished ground-water data from OMNIANA and WATSTORE Data Management Systems.

U.S. Forest Service, Alamogordo, New Mexico  
Cliff Landers, Soil Scientist: provided comments on application of the Universal Soil Loss Equation.

U.S. Fish and Wildlife Service, Albuquerque, New Mexico  
Jack Bowman, Biologist: provided information on threatened or endangered species.

U.S. Soil Conservation Service, Albuquerque, New Mexico  
Paul Boden: furnished technical data on cover-runoff relationships; provided scientific plant nomenclature  
Rick Swanson and Oran Bailey: furnished sediment yield and erosion control information; provided standard series descriptions.

U.S. Soil Conservation Service, Alamogordo, New Mexico  
Preston Radcliff and Louis Figueiroa: provided unpublished manuscripts and field sheets of Dtero County Soil Survey Report.

U.S. Soil Conservation Service, Field Office, Santa Fe, New Mexico:  
furnished information on precipitation rates and New Mexico plant species.

#### NEW MEXICO STATE AGENCIES

New Mexico Department of Game and Fish, Santa Fe and Las Cruces, New Mexico  
Jack Herring, Project Leader, Big Game Survey: provided information on deer, antelope, and game bird populations and surveys; commented on access difficulties and lack of population information on McGregor Range.  
Dr. John P. Hubbard, Assistant Chief, Game Management, Endangered Species Project: provided information on threatened or endangered species of New Mexico.

New Mexico Historic Preservation Bureau, Santa Fe, New Mexico  
Thomas W. Merlan, State Historic Preservation Officer: provided information on historic preservation rules and regulations, National Registry guidelines.

New Mexico Natural Resources Department, Parks and Recreation Division, Santa Fe, New Mexico  
Robert M. Findling, Parks Planner-Director: provided information on state recreational facilities in the area near McGregor Range.

#### EDUCATIONAL INSTITUTIONS

New Mexico State University, Las Cruces, New Mexico  
Dr. Gary B. Donart, Range Plant Physiologist: comments on McGregor Range condition.  
Kirk McDaniel, State Range Extension Manager: comments on vegetation sampling techniques and McGregor Range condition.  
Patrick Beckett, Cultural Resources Management Divison: furnished information on archaeology of the area

University of New Mexico, Albuquerque, New Mexico  
Donna Cole, Graduate Student: provided comments about the unusual summering habits of horned larks and lark buntings on the Range.

University of Texas at El Paso, Texas  
Dr. Robert Webb, Department of Biological Sciences: provided comments on unexpected presence of short-horned lizard and Mojave rattlesnake on McGregor, attributing this phenomenon to the excellent cover and abundance of prey animals.  
Dr. Arthur H. Harris, Department of Biological Sciences: comments on differences in evolutionary grazing pressures and the need to correlate stability factors in Great Plains type grasslands with southwest grasslands; described unusually large long-tailed weasel (*Mustela frenata*) sighted on Dtero Mesa, which may be species spotted in unsubstantiated sightings of black-footed ferret (*Mustela nigripes*).  
Dr. Keith Redetske, Department of Biological Sciences: comment on the need to exercise caution when extrapolating grazing study information from one geographic region to another.

Museum of Northern Arizona, Flagstaff, Arizona  
Alan P. Dulaney, Chief of Texas Archaeological Survey (TAS) team, 1975/76: comments on survey techniques, interpretation of site and relative accuracies of TAS and McGregor archaeological surveys.

PRIVATE GROUPS OR INDIVIDUALS

Timberon Corporation, Timberon, New Mexico: provided comments on economic advantages of access to Timberon through Culp Canyon.  
Charlie Lee, Rancher, Alamogordo, New Mexico: furnished comments on BLM's management of McGregor Range grazing program.  
Clark Champie, El Paso, Texas: provided information on endangered plants.

COORDINATION IN THE REVIEW OF THE DRAFT  
ENVIRONMENTAL IMPACT STATEMENT

Comments on the DEIS were requested from the following agencies and interest groups. Asterisks denote those providing comments.

CONGRESSIONAL DELEGATION, AND STATE LEGISLATORS NEW MEXICO

U.S. Senator Pete Domenici  
U.S. Senator Harrison Schmidt  
U.S. Representative Harold Runnels  
State Senator Wyatt Atkins  
State Senator John E. Conway  
State Representative George E. Fettinger  
State Representative Maurice Hobson  
State Representative John L. Mershon

FEDERAL AGENCIES

U.S. Department of Agriculture  
\*Forest Service  
\*Soil Conservation Service  
Agricultural Stabilization and Conservation Service  
U.S. Department of the Army  
\*Deputy Assistant Secretary of the Army, Headquarters, Department of the Army, Washington, D.C.  
\*Army Corps of Engineers  
White Sands Missile Range  
Holloman Air Force Base  
Fort Bliss  
Gen. John B. Oblinger, Jr., Commanding General of Fort Bliss  
\*Col. Rodriguez, Director of Facilities Engineering  
Col. Edwin Wasinger, Judge Advocate General  
\*U.S. Environmental Protection Agency  
U.S. Department of the Interior  
\*Advisory Council on Historic Preservation  
\*Fish and Wildlife Service  
Bureau of Land Management  
Las Cruces District Grazing Advisory Board  
Bob Jones  
Wally Ferguson  
Rubin Pankey  
Wilfred Cothern  
Jim Culberson  
Langford Keith  
Ed "Smoky" Nunn  
Water and Power Resources Service  
\*Heritage Conservation Recreation Service  
U.S. Geological Survey  
Bureau of Mines  
\*National Park Service  
U.S. Department of Transportation

NEW MEXICO STATE AGENCIES

- \*Office of the Governor
- \*Clearing House Bureau
- \*State Planning Division
- \*Department of Game and Fish
- Environmental Improvement Division
- Historic Preservation Bureau
- \*Highway Department
- State Land Office
- Parks and Recreation Division
- Eastern New Mexico University
- \*New Mexico State University
- University of New Mexico

TEXAS STATE AGENCIES

- \*Office of the Governor
- Budget and Planning Office
- Department of Highway and Public Transportation
- \*Texas Air Control Board
- Texas Parks and Wildlife Department
- Texas Historical Commission
- Texas Tech University
- \*University of Texas at El Paso

REGIONAL AND LOCAL AGENCIES

- Southern Rio Grande Council of Governments
- Southeast New Mexico Economic Development District
- Otero County Planning and Zoning Commission
- Dona Ana County Planning and Zoning Commission
- Sureste Resource Conservation and Development District
- Llano Estacado Resource Conservation and Development District
- South-Central Mountain Resource Conservation and Development District
- Mayor, City of Las Cruces
- Mayor, City of Alamogordo
- Mayor, City of El Paso, Texas
- Alamogordo Chamber of Commerce
- Las Cruces Chamber of Commerce
- El Paso Chamber of Commerce
- Otero County Commissioners
- Dona Ana County Commissioners
- El Paso County Commissioners
- Otero County Assessor
- El Paso Centennial Museum

CONSERVATION ORGANIZATIONS

- New Mexico Conservation Coordination Council
- Sierra Club
- Rio Grande Chapter Sierra Club
- \*New Mexico Wildlife Federation
- National Wildlife Federation
- \*National Council of Public Land Users
- Natural Resources Defense Council
- Wildlife Management Institute
- Central New Mexico Audubon Society
- Wilderness Society
- Friends of the Earth

## CONSULTATION AND COORDINATION

## REVIEW OF DEIS

Southwestern New Mexico Audubon Society  
Carlsbad Sportsman's Club  
Chaves County Wildlife Federation  
Public Lands Council  
Otero County Wild Turkey Federation  
Dona Ana County Associated Sportsmen, Inc.  
New Mexico Ornithological Society  
Jornada Resource Experimental Station  
New Mexico Association of Natural Resource Conservation Districts  
New Mexico Wilderness Study Committee  
Oregon Environmental Council  
Nevada Outdoor Recreation Association  
Ada County Fish and Game League

### LIVESTOCK ORGANIZATIONS

Southeastern New Mexico Livestock Grazing Association  
New Mexico Cattle Growers' Association  
National Cattlemen's Association  
New Mexico Farm and Livestock Bureau

### PROFESSIONAL SOCIETIES

Society for Range Management  
Soil Conservation Society of America  
Ecological Society  
\*Wildlife Society

### OTHER GROUPS

COAS Publishing and Research  
Department of Anthropology, Arizona State University  
Southwest Research and Development Company  
New Mexico Oil and Gas Association  
Yates Petroleum Corporation  
Mississippi Chemical Corporation  
Free Wheels ORV Club  
Prairie Dawgs M/C  
Timberon Corporation

### INDIVIDUALS

Livestock permittees (1979-80)  
Darr Angell  
B.B. Johnson  
Harvey Jones  
Felix Cattle Co.  
Ted Richardson  
Farr & Harvey  
Louis Wardlaw  
Pascoe & Stadtler  
Bebo Lee  
Tom Garcia  
Salvador Gutierrez  
Gary Bowers  
Tammy Finatelli  
Dr. Gary L. Cunningham  
Dr. William A. Dick-Peddie  
Dr. John A. Ludwig  
Dr. Rex O. Pieper  
Dr. Reidon R. Beck  
Dr. Gary B. Donart  
Dr. Ralph J. Raftt  
\*Dr. Richard W. Spellenberg  
Dr. Walter G. Whitford  
Dr. Stephan Hatch  
Dr. Walter H. Conley  
Jim Stephenson  
Donald E. Weaver, Jr.  
Stanley E. Green

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Draft Environmental Impact Statement (DEIS) was filed with the Environmental Protection Agency and made available to the public on April 18, 1980. The Notice of Availability was published in the April 23, 1980, Federal Register (Vol. 45, No. 80, pages 27532-27533). The Notice announced a 60 day public review period ending June 17, 1980. The public review period was scheduled to provide concerned agencies and the public an opportunity to review the DEIS and to offer comments on the adequacy of the draft statement and the environmental impacts of the proposed action and alternatives.

After publication of the Notice of Availability, over 300 copies of the DEIS were distributed to reviewing agencies and to interested members of the general public, with a cover letter summarizing the proposed action and announcing the time and location of the scheduled public hearing. Copies of the DEIS were also made available to the public in several public libraries and at the Bureau of Land Management Offices in New Mexico as well as the BLM Office of Public Affairs in Washington, D.C. A reference file was made available for public review at the Bureau of Land Management, Las Cruces District Office, 1705 North Valley Drive, Las Cruces, New Mexico. A news release was mailed from the BLM New Mexico State Office to radio and television stations, newspapers, and interest groups throughout the state.

A public hearing on the DEIS was held in Alamogordo, New Mexico on May 28, 1980. Public comment on the proposed grazing management plan was solicited through formal oral testimony and written statements. In addition to announcement of the meeting in the above referenced Federal Register, the public was notified by advertisements in local newspapers, use of a mailing list, and additional news media coverage.

A summation of public comments is provided in the next two sections of this Final Environmental Impact Statement (FEIS).

SUMMARY OF COMMENTSLETTERS

During the public review period, 31 comment letters were received. Each letter was reviewed to determine if it contained substantive comments which required a response in the FEIS, that is whether or not it discussed the adequacy of the DEIS or the impacts of the proposed action or alternatives. Comments which presented new data, questioned facts and/or analyses, or commented on the issues bearing directly on the DEIS or the environmental impacts of the proposed action were fully evaluated and responded to. Resultant changes or additions to the text of the DEIS have been incorporated into this FEIS. Table 3 lists each letter and its assigned control number. Those letters which did not contain substantive comments are designated by "no response needed" on Table 3.

TABLE 3. INDEX OF PUBLIC COMMENTS.

DATE NO. RECEIVED	AGENCY, ORGANIZATION, OR INDIVIDUAL	NUMBER OF COMMENTS	SUBJECTS OF COMMENTS
1 4/25/80	New Mexico State Planning Division	No response required	
2 4/30/80	Richard Spellerberg	2	Threatened or endangered species
3 4/30/80	New Mexico Highway Department	No response required	
4 5/8/80	Texas Air Control Board	No response required	
5 5/9/80	Environmental Protection Agency	No response required	
6 5/15/80	Corps of Engineers	No response required	
7 5/23/80	National Park Service	No response required	
8 5/27/80	Bruce King, Governor of New Mexico	No response required	
9 5/29/80	Office of Governor of Texas	No response required	
10 5/29/80	Texas Department of Water Resources	No response required	
11 5/29/80	University of Texas at El Paso	No response required	
12 6/11/80	U.S. Department of the Army, Ft. Bliss	7	Editorial; land use; Alternative C
13 6/11/80	Advisory Council on Historic Preservation	3	Cultural resources
14 6/11/80	El Paso Archaeological Society	14	Cultural resources
15 6/16/80	New Mexico Peace Conversion Project	1	Alternatives
16 6/16/80	Otero County Wildlife Federation	1	Water
17 6/17/80	Soil Conservation Service	No response required	
18 6/17/80	Mr. & Mrs. W. F. Martin	No response required	
19 6/18/80	Wildlife Society	3	Water; vegetation
20 6/18/80	U.S. Fish and Wildlife Service	22	Vegetation; monitoring; wildlife
21 6/18/80	New Mexico Range Improvement Task Force	87	All aspects of EIS
22 6/19/80	Heritage Conservation and Recreation Service	1	Cultural resources
23 6/19/80	U.S. Forest Service	2	Water; vegetation
24 6/18/80	New Mexico Dept. of Agriculture	5	Vegetation; coordination
25 7/01/80	State Clearinghouse, State Planning Division, New Mexico	No response required	
26 7/01/80	New Mexico Natural Resources Department	No response required	
27 7/01/80	New Mexico Fish and Game Department	No response required	
28 6/27/80	National Council of Public Land Users	1	Socio-economic conditions
29 7/9/80	Human Systems Research	3	Cultural resources
30 7/16/80 7/28/80	State Historic Preservation Officer (2 letters)	2	Cultural resources
31 7/14/80	Department of the Army, Office of the Asst. Secretary	1	Editorial; land use; Alternative C

PUBLIC HEARING

Three persons spoke at the Public Hearing in Alamogordo on May 28, 1980. All three individuals represented the Range Improvement Task Force at New Mexico State University, and transmitted orally the comments which were subsequently transmitted (and expanded upon) in letter number 21. Larry Foster, meat cattle specialist, presented comments on the estimates of carrying and capacity. Phil Zwank, wildlife specialist, provided comments on the wildlife section of the EIS. He also read the comments on the economics section which were prepared by James R. Gray and John Fowler. Carl Wood, soils and water specialist, provided comments related to soil erosion, soil compaction and water quality.

A verbatim transcript of the Public Hearing is available for review at the BLM District Office, Las Cruces. Except for one oral comment, all testimony received at the hearing was subsequently provided in an expanded, written form. The one oral comment not explicitly included in letter 21 was presented by Phil Zwank, as follows: "If the deer herd is presently healthy and stable, with sufficient forage and water available, how is the population expected to increase under the Proposed Action?" The response to Comment 21-52 (p. 57 of FEIS) includes BLM's response to this question. Responses to the other oral testimony are the same as the responses to letter number 21. The letter and responses are presented on pages 43-63.

OTHER COORDINATION

BLM performed biological assessments of the effects of the Proposed Action (and alternatives) on the endangered peregrine falcon and Kuenzler hedgehog cactus. The U.S. Fish and Wildlife Service (FWS) concurred with BLM's finding that there would be no effect on these species. The FWS findings have been added as pages A-38 to A-40 of the DEIS and are reproduced on pages 96-98 of this FEIS.

BLM also continued coordination with the State Historic Preservation Officer (SHPO). The two letters submitted by SHPO with regard to the DEIS are grouped together as comment letter 30. The SHPO has discussed various issues relative to information on, and impacts to the cultural resources of McGregor Range, with emphasis on the mitigation of impacts. These issues are discussed in detail in BLM's responses to letter 13 and 14, pages 21 to 32 of this FEIS.

PREPARATION OF FINAL ENVIRONMENTAL IMPACT STATEMENT

Pages 11 through 78 of this FEIS reproduce all letters received. Comments are keyed to the control number of the letter in which they appeared (comment 14-3 is the third comment in letter No. 14). The responses to specific comments adjoin the appropriate comment letter. In some cases, responses go beyond the scope of the specific comment, in order to adequately cover other related comments and to maximize the cross-referencing of responses.

Part 2 of this FEIS also contains all pages of the DEIS which have been substantially corrected or modified in response to the comment letters. These pages are identified by both the original DEIS page number (in parentheses) and an FEIS page number. In addition, some changes have been made in response to internal reviews by the BLM and the EIS consultant. In all cases the lines containing the change are indicated by a heavy line in the left margin.

Where changes are of a minor, editorial nature, the pages which would be changed are not included in Part 2. Rather, the editorial changes are noted in a list of errata on page 79-80.

STATE PLANNING DIVISION  
(STATE CLEARINGHOUSE)

APPLICANT NOTIFICATION OF RECEIPT

DATE: April 23, 1980

TO: U.S. Dept. of Interior  
BLM Las Cruces District Office  
P.O. Box 1420  
Las Cruces, NM 88001  
ATTN: Mr. Daniel C.B. Rachbun

FROM: State Planning Division  
Department of Finance & Administration  
505 Don Gaspar  
Santa Fe, New Mexico 87501  
(505) 827-2073

McGregor Range Grazing Management Program  
Project Title Draft Environmental Impact Statement SAI Number 80 04 11 068  
DOI Federal Catalog Number 15-000  
Federal Funding Agency \_\_\_\_\_

This is to notify you that we have received your:

Notification of intent

Preapplication

Application and Standard Federal Form 424 and State Supplemental Form MIS-1

The following action has been taken:

Your application does not require review; thank you for sending a copy to the Planning Division. Please advise us when Federal Action is taken on your application.

The review of your application is being coordinated by Jon Samuelson (Lead Agency Review Coordinator)

Dept. of Finance and Administration 827-5191  
(Department) (Telephone)

You may expect to receive copies of the Review by 5-6-80 (Date)

YOUR APPLICATION SHOULD ALSO BE SUBMITTED FOR REVIEW AND COMMENT TO THE SUBSTATE CLEARINGHOUSE(S) CHECKED BELOW. PLEASE DO SO IN ORDER TO AVOID DELAY OF FEDERAL ACTION.

<input type="checkbox"/> San Juan Regional Committee	<input type="checkbox"/> North Central New Mexico Economic
<input type="checkbox"/> Southwest New Mexico Council of Governments	<input type="checkbox"/> Development District
<input type="checkbox"/> McKinley Area Council of Governments	<input checked="" type="checkbox"/> Southeastern New Mexico Economic
<input type="checkbox"/> Eastern Plains Council of Governments	<input checked="" type="checkbox"/> Development District
<input type="checkbox"/> Middle Rio Grande Council of Governments	<input type="checkbox"/> Southern Rio Grande Council of Governments

(See other aids for names and addresses of the substate clearinghouses)

Approved January, 1980  
Secretary, DFA

White—Original for applicant  
Green—DFO copy  
Pink—COG's copy  
Goldened—Lead copy

COLLEGE OF ARTS AND SCIENCES  
 DEPARTMENT OF BIOLOGY  
 Box 3A/F/Las Cruces, New Mexico 88001  
 Telephone (505) 548-2811



April 28, 1980

Mr. Daniel C. B. Rathbun  
 District Manager, Bureau of Land Management  
 P.O. Box 1420  
 Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

Thank you for the opportunity to review the draft EIS for "Grazing Management, McGregor EIS Area, New Mexico." On page 2-15, under threatened or endangered plants, please note that Echinocactus kuenzleri is the only one mentioned.

2-1 There are two other species which should be mentioned. Muhlenbergia villosa was nominated for endangered status in Texas in 1976. The only known New Mexico population occurs on the McGregor Range, as detailed in my report to your office, "Review of 'threatened' or endangered' plant species in the Las Cruces District of the Bureau of Land Management, U.S. Dept. Interior" in 1978. Now the U.S. Fish and Wildlife Service presently views this species as unknown to me. It is rare, apparently.

2-2 Also, Penstemon alamosensis is found a few canyons to the north of the McGregor Range, and has a probability at least equal to that of Echinocactus Kuenzleri of being on the range.

Sincerely,

*Rathbun / A. Spellenberg*

Richard Spellenberg  
 Professor of Biology

mp

2-1 The DEIS discussed only species which were listed as threatened or endangered by the U.S. Fish and Wildlife Service (FWS). Four species potentially occurring on McGregor Range were proposed as endangered by FWS in 1978, but were not so identified by the consultation process during EIS preparation. A discussion of the "our species has been added to DEIS o. 2-15 (FEIS p. 84), and includes Muhlenbergia villosa.

2-2 This species is currently under consideration by FWS for listing as threatened or endangered; see revised DEIS o. 2-15 (FEIS p. 84).



STATE OF NEW MEXICO  
HIGHWAY DEPARTMENT

BRUCE KING  
GOVERNOR

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James W. Chancy  
Vice Chairman, Moriarty

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Secretary, Albuquerque

Albert N. Sanchez  
Member, Santa Fe

James T. Martin  
Member, Las Cruces

DEPARTMENT

Chief Highway Administrator  
Fred L. O'Conor

General Office  
P.O. Box 1420  
Santa Fe, NM 87503  
505-863-0103

District One Office  
P.O. Box 231  
Domingo, NM 88036  
505-646-2603

District Two Office  
P.O. Box 1420  
Raton, NM 87701  
505-623-6441

District Three Office  
P.O. Box 3700, Station O  
Albuquerque, NM 87110  
505-421-4651

District Four Office  
P.O. Box 230  
Las Vegas, NM 87701  
505-425-7877

Contractor Office  
P.O. Box 1127, Conchoita St.  
Santa Fe, NM 87503  
505-983-0221

AN EQUAL  
OPPORTUNITY  
EMPLOYER

April 29, 1980

Environmental - Gen.

TEXAS AIR CONTROL BOARD

6320 HWY. 200 EAST  
AUSTIN, TEXAS 78723  
512/551-5711



JOHN L. BLAIR  
Chairman  
CHARLES R. JAYNES  
Vice Chairman

BILL STEWART, P.E.  
Executive Director

May 6, 1980

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D. JACK KILIAN, M.D.  
OTTO R. KUNZE, P.H. G.P.E.  
FRANK H. LEHRIS  
WILLIAM D. PARISH

Mr. Daniel C. B. Rathbun  
District Manager  
Las Cruces District Office  
1705 North Valley Drive  
P. O. Box 1420  
Las Cruces, New Mexico 88001

Subject: Draft EIS on the Proposed McGregor Range Grazing Management Program in Otero County, New Mexico

Dear Mr. Rathbun:

Although the amount of dust will increase as a result of this project, the described grazing activities will be confined to a small area. Therefore, we feel that the operation of this project will be small enough and far enough removed from Texas as to have no significant impacts on the air quality of the State.

Thank you for the opportunity to review this document. If we can be of further assistance, please contact me.

Sincerely,

*Roger R. Willis*

Roger R. Willis, Deputy Director  
Standards and Regulations Program

cc: Mr. Manuel Aguirre, P.E., Regional Supervisor, El Paso

Dear Sir:

Reference is made to the subject of TRANSPORTATION on pages 2-45, 3-35, 8-18, 8-29, 8-40, 8-51 and 8-62.

New Mexico State Highway 506 will be maintained as an all weather gravel road as it is at present. No additional facilities are planned in the McGregor Range area. It is assumed that all additional roads and trails would be under the cognizance of D.O.I. or D.O.A.

Very truly yours,

*Thomas S. Scanlon Jr.*

Thomas S. Scanlon, Jr.  
Environmental Program Manager

T.S.  
a

b

ENVIRONMENTAL IMPACT OF THE ACTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 REGION VI  
 1201 15TH STREET  
 DALLAS, TEXAS 75270

May 7, 1980

Mr. Daniel C. B. Rathbun  
 District Manager,  
 Bureau of Land Management  
 Las Cruces District Office  
 1705 N. Valley Drive  
 P.O. Box 1420  
 Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

We have reviewed your Draft Environmental Impact Statement (EIS) on the Grazing Management Program, Otero County, New Mexico. The Program will use a portion of the Department of the Army McGregor Range. The range will be increased from 471,000 to 60,000 AUMs. Objectives of the Program are to maintain or improve the present range condition and increase the harvest of forage production from 49,877 animal unit months (AUMs) to 60,000 AUMs. To achieve these objectives, BLM will construct new water supplies to improve livestock distribution and make minor modifications to the existing management program.

14

We classify your Draft Environmental Impact Statement as LO-1. Specifically, we have no objections to the project as it relates to Environmental Protection Agency's (EPA) legislative mandates. The statement contained sufficient information to evaluate adequately the possible environmental impacts which could result from the proposed action. Our classification will be published in the Federal Register in accordance to our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act.

Definitions of the categories are provided on the enclosure. Our procedure is to categorize the EIS on both the environmental consequences of the proposed action and the adequacy of the Impact Statement at the draft stage, whenever possible.

We appreciated the opportunity to review the Draft Environmental Impact Statement. Please send our office five (5) copies of the Final Environmental Impact Statement at the same time it is sent to the Office of Environmental Review, U.S. Environmental Protection Agency, Washington, D.C.

Sincerely,

*Charles E. Phillips, Jr.*

Adlene Harrison  
 Regional Administrator (GA)

Enclosure

LO - Lack of Objections

EPA has no objections to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER - Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to re-assess these aspects.

EU - Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

ADEQUACY OF THE IMPACT STATEMENTCategory 1 - Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2 - Insufficient Information

EPA believes the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3 - Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement. If a draft statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make a determination.



SWAED-EP  
REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 1580  
ALBUQUERQUE, NEW MEXICO 87103

6

13 May 1980

Mr. Daniel C.B. Rathbun  
District Manager  
Las Cruces District Office  
1705 N. Valley Drive  
P.O. Box 1420  
Las Cruces, NM 88001

Dear Mr. Rathbun:

We have reviewed the draft Environmental Impact Statement (EIS) on the proposed McGregor Range Grazing Management Program in Otero County, New Mexico. The plan as described in the draft EIS does not affect any existing or proposed Corps of Engineers projects. Furthermore, the boundaries of the plan do not include any waters that are subject to Section 404 of the Federal Water Pollution Control Act Amendments of 1972 and a permit under Section 404 will not be necessary.

We appreciate the opportunity to provide our comments.

Sincerely,

JASPER H. COOMBES, P.E.  
Chief, Engineering Division



IN REPLY REFER TO:  
L7619(SMR)PE

7

United States Department of the Interior

NATIONAL PARK SERVICE  
SOUTHWEST REGION  
P.O. Box 728  
Santa Fe, New Mexico 87501

MAY 20 1980

Memorandum

To: District Manager, Bureau of Land Management, Las Cruces District Office, Las Cruces, New Mexico

From: ~~Associate Regional Director~~, Planning and Cultural Resources, Southwest Region

Subject: Review of Bureau of Land Management Draft Environmental Impact Statement, McGregor Range Grazing Management Program, DES 80/23

We have reviewed the subject document and determined that the proposed project does not appear to have impacts or potential impacts on any existing unit of the National Park System, or on areas under study or recommendation for possible inclusion in this System. We have no further comments.

*William E. Fields*



8

STATE OF NEW MEXICO  
OFFICE OF THE GOVERNOR  
Santa Fe  
87503

BRUCE KING  
GOVERNOR

May 15, 1980

Mr. Daniel C. Rathbun  
District Manager  
Bureau of Land Management  
1705 N. Valley Drive  
P. O. Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

Mr. Art Zimmerman has requested my review and comments on the Draft Environmental Impact Statement for the proposed McGregor Range Grazing Program.

This is to advise you that Dr. William P. Stephens, New Mexico's Secretary of Agriculture, will be submitting comments on my behalf. In addition, I want to thank you for allowing my office to have input on this important document.

Sincerely,

*Bruce King*  
BRUCE KING  
Governor

cc: Mr. Art Zimmerman  
Dr. William P. Stephens

9



OFFICE OF THE GOVERNOR

WILLIAM P. CLEMENTE, JR.  
GOVERNOR

May 23, 1980

Mr. Daniel C. B. Rathbun  
District Manager, Las Cruces District Office  
Bureau of Land Management  
1705 North Valley Drive  
P. O. Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

The draft environmental impact statement pertaining to McGregor Range/Grazing Management Program, prepared by your office, has been reviewed by the Budget and Planning Office and interested state agencies. Copies of the review comments are enclosed for your information and use. The State Environmental Impact Statement Identifier Number assigned to the project is 0-04-50-053.

The Budget and Planning Office appreciates the opportunity to review this project. If we can be of any further assistance during the environmental review process, please do not hesitate to call.

Sincerely,

*Donald C. Harley*  
Donald C. Harley, Manager  
General Government Section  
Budget and Planning Office

spg

Enclosures: Comments by Texas Department of Water Resources  
University of Texas at El Paso

TEXAS DEPARTMENT OF WATER RESOURCES  
1700 N. Congress Avenue  
Austin, Texas

## TEXAS WATER DEVELOPMENT BOARD

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Harvey Davis  
Executive Director  
May 14, 1980

Mr. Paul T. Wrottenberry, Director  
Governor's Budget & Planning Office  
Executive Office Building  
411 West 13th Street  
Austin, Texas 78701

Re: U.S. Department of the Interior, Bureau of Land Management, Las Cruces  
District Office -- Draft Environmental Impact Statement -- Grazing Management, McGregor EIS Area, New Mexico. April 1980. SAI No. 0-04-50-053.

Dear Mr. Wrottenberry:

In response to your April 30 memorandum, the Texas Department of Water Resources (TDWR) has reviewed the referenced environmental statement on the Bureau of Land Management's proposed grazing management program and six alternative management plans for the Co-Use Area within the Department of the Army's \$15,000-acre McGregor Range in Otero County, New Mexico. The proposed action involves the construction of improvements and increased grazing on 271,000 acres.

From the standpoint of water resources and related matters within the purview of our statutory statewide responsibilities and interests, TDWR finds no basis to conclude that the proposed Federal program action in the State of New Mexico would have potential significant adverse environmental, economic, or social impacts on the State of Texas. We feel that the referenced document adequately fulfills the analytical, coordinative, and administrative requirements of the National Environmental Policy Act of 1969.

Sincerely yours,

*Harvey Davis*

Harvey Davis  
Executive Director

II

Suggested Questions to be Considered by Reviewing Agencies:

1. Does the proposed project impact upon and is it consistent with the plene, programs and statutory responsibilities of your agency?
2. What additional specific effects should be assessed?
3. What additional alternatives should be considered?
4. What better or more appropriate measures and standards should be used to evaluate environmental effects?
5. What additional control measures should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irrevocable commitment of resources?
6. How serious would the environmental damage from this project be, using the best alternative and control measure?
7. What specific issue require further discussion or resolution?
8. Does your agency concur with the implementation of this project?

As a part of the environmental impact statement review process, the Budget and Planning Office forwards to the originating agency all substantive comments which are formally submitted. If, after analyzing this document, you conclude that substantive comments are unnecessary, you may wish to so indicate by checking the box below and forwarding the form to this office. This type of response will indicate receipt of this document by your agency and that no formal response will be prepared.

No Comment.

*Rudolf G. Wiley*  
Rudolf G. Wiley  
Graduate Dean and  
Director of Research  
Name and Title of Reviewing Official

The University of Texas at El Paso  
Agency

12



DEPARTMENT OF THE ARMY  
HEADQUARTERS US ARMY AIR DEFENSE CENTER AND FORT BLISS  
FORT BLISS, TEXAS 79916

AIZC-FEE

10 JUN 1980

Mr. Daniel C.B. Rathbun, District Manager  
U.S. Department of the Interior  
Bureau of Land Management  
P.O. Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

Fort Bliss has reviewed your Draft Environmental Impact Statement (DEIS) concerning Grazing Management for the McGregor Area, New Mexico. Inclosure 1 lists our comments to this DEIS.

As indicated in your DEIS, the range improvements in your proposed action will require approval from Fort Bliss prior to construction. This approval is required to assure that these improvements will not interfere with present or future military use of the Range. For example, proposed pipelines should be placed underground because of the possibility of future maneuvering in the area. It would also indicate that Alternative C could present a land-use conflict with the continued use of McGregor Range for military purposes. Therefore, please inform this directorate if at any time in the future you are considering implementing Alternative C in lieu of the proposed action. A meeting would be arranged between the Bureau of Land Management and Fort Bliss to further discuss this alternative.

The opportunity to review this DEIS is appreciated.

Sincerely,

*Raymond A. Ruiz*  
for JOSEPH C. RODRIGUEZ  
Colonel, CE  
Director of Facilities Engineering

1 Inclosure  
As stated

18

## COMMENTS TO DEIS

Fort Bliss offers the following suggested revisions:

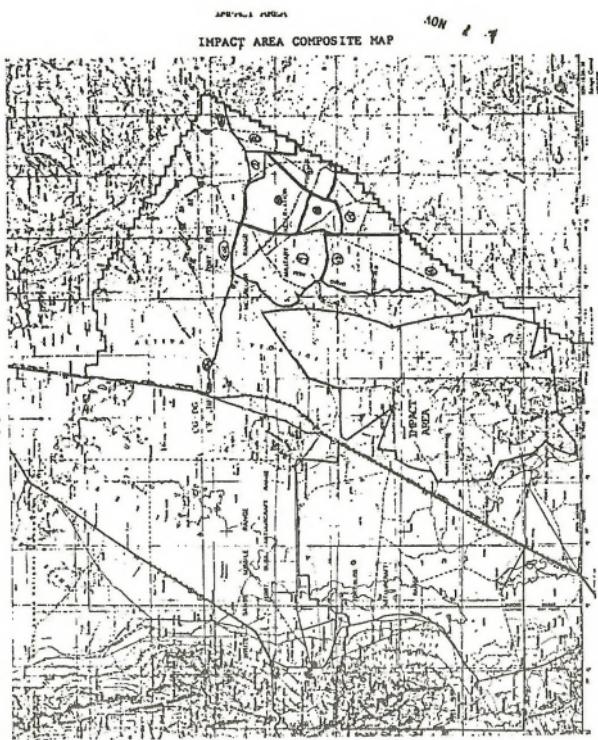
- 12-1  1. Page 1-1. The number in paragraph 1, line 3, should be changed from 698,00 to 679,468.
- 12-2  2. Page 1-10. The meaning under the heading "Department of the Army (DOA)" may be clearer if the phrase "wildlife resources" in the second and fourth sentences is changed to "wildlife habitat."
- 12-3  3. Page 2-3. There seems to be an inconsistency in the square miles reported for the Alluvial Fans and Bolson areas on page 2-1 and these same areas as reported on page 2-3.
- 12-4  4. Page 2-4. The map (Figure 2-9) should incorporate the Impact Area Composite Map and the Missile Debris Scatter Zone, copies attached.
- 12-5  5. Page 3-35. It should be clarified how increased grazing would lead to fewer acres lost to fires resulting from missile crashes and other defense ordnance.
- 12-6  6. Page 3-35. The following information should be included in the first paragraph: During missile firing operations all personnel will be required to leave the impact areas. All cattle will be removed from the area during firing operations unless an agreement specifying otherwise is effected between the lessees and the Department of the Army.
- 12-7  7. Page 8-28. The information should be included that Alternative C would present a significant land-use conflict with the continued use of McGregor Range for military purposes. Most of the leased leasing areas would be within gunnery impact areas, where high potential for unexploded ordnance exists.

61

- 12-1  The number 698,000 in the DEIS included acreage in the Lincoln National Forest which is no longer within the withdrawal area. DEIS p. 1-1 has been revised; see FEIS p. 81.
- 12-2  The term "wildlife resources" (which appears in the fourth and six sentences of the referenced paragraph) is more comprehensive than, and inclusive of the term "wildlife habitat". The original wording has been retained in the FEIS.
- 12-3  DEIS page 2-1 has been revised (see p. 83 of the FEIS).
- 12-4  The map follows on p. 20 of the FEIS, and conveys the information requested.
- 12-5  DEIS page 3-35 (FEIS p. 92) has been revised.
- 12-6  The first sentence has been added to the revised DEIS p. 3-35 (p. 92 of the FEIS). The question of removal of cattle is covered by the Memorandum of Understanding between BLM and DOA.
- 12-7  DEIS page 8-28 has been revised; see p. 94 of the FEIS.

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**Advisory  
Council On  
Historic  
Preservation**

This response does not constitute  
Council comment pursuant to  
Section 105 of the National Historic  
Preservation Act, nor Section 204  
of Executive Order 11593.

1522 K Street, NW  
Washington, DC 20005

Reply to:

Lake Plaza South, Suite 618  
44 Union Boulevard  
Lakewood, CO 80228

June 9, 1980

Mr. Daniel C.B. Rathburn  
District Manager  
Las Cruces District Office  
Bureau of Land Management  
1705 North Valley Drive  
P.O. Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathburn:

On April 24, 1980, the Council received your undated letter requesting review and comment on the draft environmental statement (DES) for the proposed Crazing Management Program, McGregor EIS Area, New Mexico. We are concerned that the Bureau has not referenced the Programmatic Memorandum of Agreement, ratified January 14, 1980, which was designed to direct the Bureau's compliance procedures for undertakings of this nature. A copy of the Agreement is enclosed for your convenience. Because the DES does not demonstrate compliance with the Stipulations of this Agreement, nor does it present evidence that an alternative procedure for insuring compliance with Section 106 has been selected (Stipulation I.a.), the Council considers the DES to be incomplete with respect to compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f, as amended, 90 Stat. 1320) and the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800).

13-1 13-2 Our initial reaction after reviewing the DES is two-fold. First, the Class II survey represents only one percent of the project area. In our opinion this sample is too small to provide reliable predictive information on the existence and nature of unidentified cultural properties. Moreover, it is too small a sample upon which to base management decisions regarding such properties. Therefore, the Bureau should consider conducting a Class II survey that encompasses at least 3 to 10 percent of project area, as per BLM Manual Section 8111.

Secondly, Stipulation No. 6 of the Agreement requires consultation

13-1 The issues addressed in the Memorandum of Agreement pertaining to the preparation of the DEIS have been covered, as follows.

Stipulation 1. Class I and Class II inventories were conducted; the SHPO was consulted and a list prepared of sites potentially eligible for the National Register. Subsequent consultation with Dan Riley of the New Mexico SHPO's office took place July 3, 1980, as part of the on-going consultation process. In response to this meeting, the Bureau forwarded to the SHPO an archaeological survey performed by the Texas Archaeological Survey (TAS). BLM believes that the completed survey complies with the Memorandum of Agreement. At the time of printing of the FEIS, BLM had not received a response from the SHPO; however, discussions with the Office indicate that a letter indicating concurrence will be forthcoming. Page 1-11 of the DEIS has been revised to summarize the status of coordination (see o. 99 of the FEIS).

Stipulation 2. The inventory reports were referenced on o. 2-34 of the DEIS.

Stipulation 3. Class I and Class II inventories (required prior to commencement of the DEIS) were done. A Class III survey is required later, prior to commencement of range improvement activities. As stated in the DEIS, Table 1-1, prior to any construction an EA will be prepared and an archaeological clearance performed. A complete Class III survey will be conducted in the vicinity of the improvement sites; the radius of the area covered will be determined in consultation with the SHPO.

Stipulation 4. The SHPO received copies of the results of the Class I and Class II surveys. Class III survey data will be sent to the SHPO as the surveys are completed.

Stipulations 5 and 6. The feasibility of preventing impacts of general cattle trampling is currently (July, 1980) being explored with the SHPO. In the vicinity of the improvement sites, impact and appropriate mitigation measures will be determined. The improvements are planned, as described for in Table 1-1 of the DEIS. Mitigation measures will be developed in consultation with the SHPO. The SHPO's evaluation of this issue is discussed in letter 30 of the FEIS.

Other stipulations will be addressed as needed.

13-2 As described in the Cultural Resources Support Document, previous surveys have been conducted on the McGregor Range, providing about a 25% survey overall. The data were reviewed, incorporated, and the one percent sample designed to test the hypothesis that the data are representative to the needs of the EIS. It is believed that the data from these surveys are adequate to predict site nature and location. Prior to construction of any improvements, intensive surveys will be conducted in the vicinity of the improvement sites. Further, a program to monitor surface disturbance is being undertaken by BLM to provide data on trampling impacts. Together this information will provide the data base necessary for management decisions.

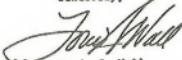
Page 2  
Mr. Deoziel C.B. Rathburn  
McGregor Range  
June 9, 1980

13-3

between the Bureau and the New Mexico State Historic Preservation Officer (SHPO) to develop mutually acceptable measures to mitigate adverse impacts of the proposed undertaking on properties eligible for or included in the National Register of Historic Places. Since the area of environmental impact contains such properties, as per the SHPO's December 19, 1979 letter, the Council requires further documentation outlining the results of this consultation process.

Please prepare a status report which details the steps that the Bureau plans to take with regard to compliance with the Agreement and forward it to the Council at your earliest convenience. If you have any questions or should require further assistance, please do not hesitate to contact Charles M. Niquette of the Council staff, telephone number (303) 234-4946, an FTS number.

Sincerely,



LSW  
Louis S. Wall  
Chief, Western Division of  
Project Review

Enclosure

13-3 A status report has been prepared and is being sent to the Advisory Council on Historic Preservation. Agreements mitigation measures to avoid adverse impacts on sites eligible for the National Register will be developed in consultation with the SHPO as Improvement sites are located and their impacts assessed. The feasibility of preventing trampling impacts on large areas and the need for additional survey and mitigation away from improvements was discussed with Dan Ritter of the New Mexico SHPO's office July 2, 1980 as part of the ongoing consultation process. SHPO's response is included in letter 30 in the FEIS.

**Advisory  
Council On  
Historic  
Preservation**

1522 K Street NW  
Washington D.C.  
20005

**PROGRAMMATIC MEMORANDUM OF AGREEMENT  
BETWEEN THE  
DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT,  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,  
AND THE  
NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS  
REGARDING THE  
LIVESTOCK GRAZING AND RANGE IMPROVEMENT PROGRAM**

WHEREAS, the Department of the Interior, Bureau of Land Management, administers public lands, principally in the 11 Western States and Alaska, under concepts of multiple-use and sustained yield, and, among other responsibilities, the Bureau of Land Management is charged with management of rangeland and forage products under the Taylor Grazing Act of 1934 (43 U.S.C. 315) and the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701), which also charges the Bureau of Land Management with the management and protection of cultural resources; and

WHEREAS, Section 106 of the National Historic Preservation Act (16 U.S.C. 470f, as amended, 90 Stat. 1320) requires that the head of any Federal agency having direct or indirect jurisdiction over a proposed Federal, federally assisted, or federally licensed undertaking affecting properties in or eligible for the National Register of Historic Places shall afford the Advisory Council on Historic Preservation (hereafter Council) a reasonable opportunity for comment; and

WHEREAS, livestock grazing and range improvement activities undertaken by the Bureau of Land Management may have an effect upon properties in or eligible for the National Register of Historic Places and will require compliance with Section 106 of the National Historic Preservation Act, Section 2 of Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment," and the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800); and

WHEREAS, the Bureau of Land Management is currently engaged in an ongoing program of rangeland management which involves the preparation, by 1988, of approximately 145 environmental statements on specific areas where grazing is permitted on approximately

**Programmatic Memorandum of Agreement  
Livestock Grazing & Range Improvement Program  
Bureau of Land Management  
Page 2**

174 million acres of public lands in the Western States and has requested Council review of the rangeland management program; and

WHEREAS, the Council and the Bureau of Land Management have met and reviewed the livestock grazing and range improvement program of the Bureau of Land Management and its relation to compliance with Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593, as implemented by the Council's regulations (36 CFR Part 800) and the responsibilities for historic and cultural resources under the National Environmental Policy Act of 1969 (42 U.S.C. 4321) as implemented by the Council on Environmental Quality in the "National Environmental Policy Act Regulations" (40 CFR Parts 1500-1508).

NOW, THEREFORE, it is mutually agreed that the Bureau of Land Management will ensure, through the stipulations outlined in this Programmatic Memorandum of Agreement, that historic and cultural properties will be given adequate consideration in grazing management program decisions and implementation which includes, but is not limited to, the preparation of grazing environmental statements, thereby meeting its responsibilities under Section 106 of the National Historic Preservation Act.

**STIPULATIONS**

1. The Bureau of Land Management will conduct Class I (existing data inventory) and Class II (sampling field inventory) inventories of historic and cultural properties, as specified in BLM Manual Section 811, to be completed at the appropriate planning stage and prior to the preparation of the draft environmental statement. Inventory results will be evaluated, in consultation with the appropriate State Historic Preservation Officer, to identify properties included in or eligible for inclusion in the National Register of Historic Places.

- a. The inventory requirements may be modified on a case by case basis for interim grazing environmental statements (i.e., those prepared during fiscal years 1979 through 1981) if an alternative is acceptable to the appropriate State Historic Preservation Officer.

**Programmatic Memorandum of Agreement  
Livestock Grazing & Range Improvement Program  
Bureau of Land Management**

Page 3

- b. If an acceptable alternative cannot be negotiated with the appropriate State Historic Preservation Officer, then the Bureau of Land Management will proceed with the preparation of the environmental statement and request the comments of the Council in accordance with 36 CFR 800. The Council's comments will be included in the final environmental statement.
- 2. This Programmatic Memorandum of Agreement and the inventory reports identifying historic and cultural properties will be referenced in each environmental statement.
- 3. Prior to commencement of any range improvement activities which involve land disturbance, the Bureau of Land Management will conduct a Class III inventory, as specified in the BLM Manual Section 8111.4, supplementing previous surveys to locate, identify, and evaluate properties in the impact area that may be eligible for inclusion in the National Register of Historic Places. Range improvement activities which involve land disturbance include, but are not limited to, such activities as construction of fencing and corrals, water development, chaining, and controlled burning. If properties that may be eligible for the National Register are found, the Bureau of Land Management will consult with the appropriate State Historic Preservation Officer and forward the documentation to the Keeper of the National Register to obtain a determination of eligibility in accordance with 36 CFR Part 63.
- 4. The Bureau of Land Management will provide the appropriate State Historic Preservation Officer with copies of the reports of the Class I, II, and III inventories in accordance with Sections 102(a)(2) and 202(c)(9) of the Federal Land Policy and Management Act of 1976 for inclusion as part of the State Inventory conducted pursuant to 36 CFR Part 61.
- 5. The Bureau of Land Management will design the livestock grazing and range improvement program to avoid adverse effects on properties included in or eligible for inclusion in the National Register of Historic Places, unless this is not prudent or feasible.

**Programmatic Memorandum of Agreement  
Livestock Grazing & Range Improvement Program  
Bureau of Land Management**

Page 4

- 6. Where it is not prudent or feasible to avoid adverse effects on properties included in or eligible for inclusion in the National Register of Historic Places as part of a livestock grazing and range improvement program authorization and the property is not a National Historic Landmark or National Historic Site, the Bureau of Land Management will consult with the appropriate State Historic Preservation Officer and will:
  - a. Develop mutually acceptable measures to mitigate the impact of the proposed action; and
  - b. Notify the Council in writing of agreements reached with the State Historic Preservation Officer under the provisions of 6(a) above. The Council need not be afforded further opportunity for review and comment.
- 7. The provisions of this Programmatic Memorandum of Agreement shall apply to the States of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.
- 8. If it is determined that the affected property is a National Historic Landmark or National Historic Site, or agreement cannot be reached between the Bureau of Land Management and the appropriate State Historic Preservation Officer on satisfactory mitigation measures, the Bureau of Land Management will request the comments of the Council in accordance with 36 CFR Part 800.
- 9. At the request of the President or a Member of Congress, the Council may advise the Bureau of Land Management, that a particular action, authorized by a grazing permit or lease, will require individual review and comment pursuant to 36 CFR Part 800. In that event, the Bureau of Land Management will comply with the provisions of the Council's regulations.
- 10. The Council and the Bureau of Land Management will review the provisions of this Agreement on an annual basis to determine whether modification or termination is appropriate. Should the current livestock grazing program of the Bureau of Land Management be revised, the ratifying parties will mutually determine whether the provisions of the Agreement will continue to apply.

Programmatic Memorandum of Agreement  
Livestock Grazing & Rangelands Improvement Program  
Bureau of Land Management  
Page 5

*Robert W. Utley* 8/20/79  
Deputy Executive Director (date)  
Advisory Council on Historic  
Preservation

Associate *Elmer H. Hardy* 12/21/79  
Director, Bureau of Land Management (date)

*Sam E. Drir* 8/26/79  
President, National Conference of (date)  
State Historic Preservation Officers

*Robert W. Utley* 11/11/80  
Chairman (date)  
Advisory Council on Historic  
Preservation

from the desk of:



mailing address:  
P.O. Box 4345  
El Paso, Texas 79914  
(915) 751-3295

EL PASO ARCHAEOLOGICAL SOCIETY, INC.  
WILDERNESS PARK MUSEUM  
El Paso, Texas

MAY 6, 1980

BUREAU OF LAND MANAGEMENT  
DISTRICT MANAGER  
LAS CRUCES DISTRICT OFFICE  
1705 N. VALLEY DRIVE  
P.O. BOX 1420  
LAS CRUCES, NEW MEXICO 88001

GENTLEMEN:

26

The Bureau of Land Management's draft EIS of April 1980, for grazing management in the McGregor Area, New Mexico, has been evaluated by the Committee for EIS Review of the El Paso Archaeological Society, El Paso, Texas. The following is the committee's evaluation of the DEIS with specific reference to the protection of cultural resources located the project area.

In general, the committee finds the DEIS inadequate and unacceptable in its consideration of the probable adverse effects that the grazing program will have upon cultural resources. The committee also thinks the DEIS demonstrates inadequate compliance with the procedural requirements of federal law and regulations. The committee's comments are presented topically below.

INADEQUATE DISTRIBUTION OF THE DEIS FOR INFORMED PUBLIC REVIEW:

The review committee finds inadequate distribution of the DEIS to organizations and individuals archaeologically knowledgeable of the project area. The DEIS was distributed

to some 68 different state, regional and local, and conservation agencies and organizations, only three of which represent archaeological reviewers and only one of the three is local. Critically, several local and state level organizations having recognized archaeological expertise were not on the distribution list; these include the Cultural Resources Management Division, Dept. of Anthropology, New Mexico State University at Las Cruces; El Paso Archaeological Society; Human Systems Research (a highly respected, private research group with substantial knowledge of the project area); New Mexico Archaeological Council; Office of Contract Archaeology, University of New Mexico, Albuquerque; and the Texas Archaeological Society.

- 27**
- ¶ The committee thinks that failure to distribute the DEIS to such knowledgeable archaeological organizations represents a significant failure to respond to the public review aspects of the NEPA process and it has deprived the BLM of informed, critical review of the archaeological components of the proposed project.

INADEQUATE DATA FOR DETAILED REVIEW:

- ¶ 1. The review committee found that the DEIS does not provide sufficient data to permit detailed assessment of the potential impact of the grazing program or to permit identification and evaluation of alternative mitigation strategies. For example, pages A-36 and 37 contain a letter from the State Historic Preservation Officer of New Mexico; the latter identifies numerous sites found to probably satisfy the criteria for inclusion on the National Register of Historic Places. None of these sites, however, are shown on any of the maps that describe various aspects of the grazing program, and there is no discussion of specific mitigation measures designed for these sites.

¶ 1-1 Notices were sent to persons and agencies on BLM's mailing list and publicized in the newspaper and the Federal Register. Everyone requesting a copy of the DEIS was sent one. A copy was sent to the University of New Mexico and another to New Mexico State University where their internal distribution systems were responsible for routing it to the departments. Other archaeological groups mentioned in the letter have been contacted and were sent a copy of the DEIS on June 13, 1986. They have also been added to the mailing list and will be notified in the future of BLM documents available for review.

¶ 1A-2 Information describing site type and definition are to be found in pages 26-29 of the Cultural Resource Support Document on file at the BLM District Office, Las Cruces. Also on file is a map of the McGregor Range Co-use area that clearly presents individual site locations, transect lines, and areas examined in previous studies. BLM did not present more detailed site information in order to reduce the probability of vandalism. Although the data are confidential, they will be made available to the State Archaeologist or other responsible archaeologists or archaeological groups.

BLM did not discuss mitigation measures for individual sites because the locations of specific improvements have not yet been determined. As stated in DEIS Table I-1, archaeological review is required and an environmental impact statement will be issued prior to any construction or placing of salt-blocks. Specific mitigation measures will be developed in consultation with the State Historic Preservation Officer.

Thus it is not possible for reviewers to assess how and where adverse effects to these sites are likely to occur or to assess the adequacy of the DEIS' highly generalized, proposed mitigation as a means of protecting these sites.

- 14-3 2. The details of the survey strategy and methodology and of the distribution and location of sample units resulting in coverage of a reported 2170 acres (less than one percent of the project area) are not reported. Thus, it is not possible to evaluate the adequacy of the survey for providing reliable management data concerned with differential densities of sites and differential quantities of different kinds of sites across the grazing area. Thus, it is impossible to assess the relative severity of probable adverse effects to be expected within pastures or between pastures; accordingly, different forms of mitigation cannot be assessed on a pasture by pasture or on a project area basis. The DEIS contains absolutely no discussion of these critical management questions and problems.

28

#### OVERALL GRAZING PROGRAM:

The DEIS identifies two primary sources of probable adverse effect resulting from the grazing program: construction of improvement (e.g., water wells, water troughs, dirt tanks, etc.) and cattle trampling (cf, pages 3-32 and 3-33). The treatment of these two sources in the DEIS is evaluated below.

- 14-4 1. Construction of Improvements: Table 1-1, page 1-7, indicates that "archeological clearance would be required for each [construction site]." And, pages 3-32 and 3-33 indicate that management procedures would be "designed to avoid construction of facilities in areas where cultural resources are abundant and/or sensitive" and that some improvements will be sited "away from sensitive areas."
- The DEIS, however, does not define what is meant by "abundant," "sensitive," or "sensitive area" such that reviewers can

14-3 Detailed information on survey strategy and methodology in conjunction with a section on archaeological background was presented in the Cultural Resource Support Document pp. 34-37, Figure 1 and Table 2. This information is on file at the BLM District Office, Las Cruces.

The one percent sample, as discussed in the Cultural Support Document, p.37, was too small to provide a statistically valid measure of site density. However, the results of this survey together with data from previous surveys do provide a general picture of site distribution, site types, and site sizes. Project results are shown in Table 2, of the DEIS. Future surveys will add to this information and additional measures will be taken as outlined in DEIS Table 1-1 and as determined in ongoing consultation with the State Historic Preservation Officer (SHPO). See response to comment 13-2 for a more detailed discussion of this issue.

14-4 Abundant Areas are those defined by the frequent occurrence of cultural resources regardless of affiliation.

Sensitive Areas contain individual manifestations and/or site clusters of special interest. These may be more or less sensitive or of special interest because of type, age, or relative abundance. Such remains are usually considered potentially eligible for the National Register.

These terms are relative. The delineation of abundant and sensitive areas is the responsibility of the project manager. More detailed site-specific surveys which will be conducted prior to construction of facilities. This determination will be made in consultation with the SHPO.

anticipate when facilities would, or would not, be moved. The committee requests that the definitional criteria for these various terms be clearly stated so that there is provided an opportunity for independant and informed evaluation of the adequacy of the criteria and of the probable effectiveness of this proposed mitigation.

<sup>2</sup> The committee notes a significant contradiction with the stated mitigation when the proposed locations of facilities are examined. Figure 2-8, page 2-30, illustrates a large area identified as a "high density area for archaeological/historical resources." However, Figure 1-4, page 1-8, and Table A-3, page A-7, indicate that more than half of the proposed improvements/facilities are located to this <sup>14-5</sup> area, and, critically, that the pasture identified as one of the most sensitive, Pasture 3 (page 3-32), has almost twice as many proposed improvements as any other pasture. The committee request BLM explain how the proposed construction fulfills the commitment to the stated mitigation. It is noted that the DEIS contains no discussion of how this apparent contradiction has been resolved by the management program designed for the grazing program.

<sup>14-5</sup> 2. Cattle Trampling: The DEIS is evaluated as demonstrating inadequate planning to mitigate the adverse effects to be expected from cattle trampling. The DEIS identifies cattle trampling as a source "of significant deterioration of site condition" (page 2-39). The BLM Manual, Section 8140, Cultural resource Protection identifies cattle trampling as a source of deterioration separate from the construction of improvements associated with grazing programs. And, a draft Memorandum of Agreement (M.o.A.) between the Department of Interior (BLM), the Advisory Council on Historic

<sup>14-5</sup> The terrain in pastures 3, 4, and 5 restricts the distance that cattle will travel from a water source. Therefore, to provide adequate forage and reduce the impact on a given area of range, more water tanks and improvements are proposed in these pastures than in others. As stated in DEIS Chapter 1, Table 1-1, an Environmental Assessment, during a Class III site-specific survey, will be conducted to determine if specific mitigation activities of the Proposed Action would disturb any archaeological sites. Until intensive archaeological inspections are performed on a project basis, nothing will be allowed to increase impacts on a particular location. Proposed improvements will follow necessary mitigation activities, including alternate improvement location, should actual sites be threatened with possible destruction.

<sup>14-6</sup> 14-6 Trampling impacts are discussed in response to comments 13-1 and 13-2. For improvement sites, impacts will be evaluated and site-specific mitigation measures developed prior to construction again in consultation with the SPCO, as outlined in Table 1-1 of the DEIS.

Preservation, and the National Conference of State Historic Preservation Officers concerned with BLM's livestock grazing and range improvement program also specifically identifies cattle trampling as a topic of concern separate from the construction of range facilities. The committee understands that the draft is now "final". The committee evaluates cattle trampling as a probable source of severe damage to cultural resources throughout the grazing areas. The evaluation is based upon the sandy characteristic of the soils in the grazing areas combined with the results of wind deflation which have eroded soils in many areas such that house floors and associated activity areas of prehistoric villages and town often are only a few centimeters under the surface of the ground. Such sites can be seriously damaged by only a few cattle walking over them during the course of several years. Smaller sites in the area often are represented only by surface scatters of artifacts, and the internal structure of such sites also can be severely damaged by a few instances of cattle trampling occurring throughout the grazing area eventually will be significantly more destructive than the localized and small scale construction of improvements.

14-7 The DEIS indicates that cattle trampling will be mitigated only in the vicinity of improvements; improvements found to cause direct impact or to be in "sensitive" areas would be moved (see comments for number 1, above). This limited, proposed mitigation is evaluated as unacceptable protection of cultural resources given the potential for cattle trampling to cause adverse effect throughout the grazing area.

14-8 Finally, the DEIS does not demonstrate that BLM has complied with the provisions of federal regulations in developing its proposed grazing program. The provisions of 36 CFR 800 indicate that BLM should have consulted with the SHPO of

14-7 See responses to comments 13-1 and 13-2.

14-8 Consultation with the SHPO occurred on December 17, 1979 as referenced in the SHPO's letter, presented on pages A-36 and A-37 of the DEIS. At the meeting on July 2, 1980 the possible need for additional survey was discussed. Also, see responses to comments 13-1 and 13-2.

New Mexico about the possible need for additional survey work in the grazing areas, Section 800.4(a)(1) and (a)(2). The DEIS does not document that BLM has conducted such consultation.

BLM also should have consulted with the SHPO, Section 800.4 (b), about whether or not the grazing program would have an "effect" upon significant cultural resources located in the grazing areas, particularly those identified in the letter included on pages A-36 and 37 of the DEIS. The DEIS should document the results of that consultation, or at least indicate that the consultation will occur prior to development of the Final EIS in accordance with Section 800.9 (a) and (b), 36 CFR 800. The DEIS contains no such documentation.

14-9 See responses to comments 13-1 and 13-2.

PASTURE NUMBER 2:

Another major inadequacy of the DEIS concerns pasture 2, the Cox Well Pasture of 25,000 acres. This pasture apparently is a new pasture, not previously utilized as part of the grazing program begun in the mid 1960's. The specific data for this conclusion are not easily found, but they are as follows: Figure 2-3, page 2-11, indicates that this

14-10 pasture has no or only slight use, but there is no indication of whether or not there has been in fact "no" or only "slight use" of the pasture. On page 2-43 there is the statement that "Pasture 2 is developed..." the number of ACUs for the grazing program will be increased by about 5 percent. Finally, in Table G-4, pages A-32, Unit 2 is specifically identified as a "(proposed-not in use)" pasture.

We conclude that Pasture 2 is a completely new unit not previously part of the grazing program; thus, it represents 14-11 an expansion of the program into an area not already being subjected to adverse effects resulting from the grazing program. The committee thinks that the pasture should be

14-10 Pasture 2 has not been utilized as part of the recent BLM grazing program. This is presented most clearly in DEIS Table G-1. DEIS 1-1 has been revised (see FEIS o. 8) to make this point clear. Pasture 2 was approved for use by COA in May, 1979, following environmental assessment of this action, and is considered part of the existing program.

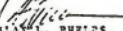
14-11 See response 14-10.

- classified as a "new action" and receive special consideration in the BLM's cultural resources management program in accordance with good archaeological management practice and, more critically, in accordance with a literal interpretation of the stipulations of the M. of A. referred to above. Specifically, paragraph 3 of the M. of A. stipulates that "Prior to the commencement of any range improvement activities which involve land disturbance, the Bureau of Land Management will conduct an intensive field survey as specified in the BLM Manual Section 8111.14...Land disturbance includes but is not limited to such activities as construction of [improvement], cattle trampling..." Section 8111.14 stipulates a Class III, or complete survey of the entire project area.
- ¶ Further, the DEIS contains no evidence that BLM has consulted with the SHPO under the provisions of 36 CFR 800 identified above in the evaluation of the overall grazing program. The basis for the probable need for such separate consultation is (1) Figure 2-8, Page 2-38, which shows an area of purportedly high site density extending into the proposed pasture and (2) the identification of cattle trampling as a source of significant, widespread adverse effect upon cultural resources.
- ¶ The committee concludes that the stipulations of the M. of A. have not been met and that the requirements of 36 CFR 800 have not been satisfied for the proposed new grazing Pasture 2. Accordingly, opening this pasture prior to the documented completion of these several requirements would violate federal regulations as well as good archaeological management standards which BLM, as a major federal land manager, is mandated to observe.

Sincerely,

c.c.

- 1. State Historic Preservation Officer, New Mexico
- 2. Advisory Council on Historic Preservation
- 3. U.S. Environmental Protection Agency

*Carol Hendrick*  
 CAROL HENDRICK, President  
 El Paso Archaeological Society  
  
 ALAN L. PHELT, Acting Chairman  
 Committee for EIS Review

14-12 See response to comment 13-1.

14-13 There was discussion at the December 17, 1980 meeting with the SHPO, referenced on DEIS page 2-39, regarding the grazing issues in general, although this discussion was not documented. At the meeting on July 2 (see response 13-1) there was further discussion on the problem. As improvement sites are located, further consultation with the SHPO will occur.

14-14 See response 13-1 and 14-10.

# THE NEW MEXICO PEACE CONVERSION PROJECT

2405 MEADOW ROAD S.W., ALBUQUERQUE, N.M. 87105



June 11, 1980

To: Bureau of Land Management  
Subject: DEIS on Grazing Management at the McGregor BLM Area

The New Mexico Peace Conversion Project is grateful for this opportunity to comment on the Draft Environmental Impact Statement on Grazing Management at the McGregor BLM Area, New Mexico dated April, 1980.

The New Mexico Peace Conversion Project is an undertaking by a group of New Mexico residents concerned about the increased militarization of American society and its adverse impacts on our state's land and people. We are looking for economic and social alternatives to the military installations here.

The military in New Mexico has a dominant presence. There are two national nuclear weapons laboratories, three air force bases, the largest military reservation and testing range in the U.S., as well as the western world's only air defense center at the McGregor Range. Thirty percent (30%) of the airspace in New Mexico is restricted to military flights, and New Mexico has 2,950,659 acres controlled by the military. Much of this land may be partially or even irreparably damaged by military use. The Trinity Site on White Sands Missile Range, for instance, is permanently contaminated. In addition, unexploded bombs still lie in the arroyos around Los Alamos as well as in the mesas of McGregor Range. We feel that the role of the military and its facilities in New Mexico should be constantly scrutinized as to necessity and reduced wherever possible. We feel the BLM's grazing program at the McGregor Range is a step in that direction but does not go far enough.

From this perspective, we comment on the DEIS. We wish we could attend the public meeting, but because of distance,

<sup>24</sup>  
time, and cost, we cannot.

We give our provisional support to the BLM's proposal to construct, improve and increase grazing on 271,000 acres of the McGregor Range for these reasons:

1. We feel it necessary that more land be opened for grazing and use by area residents for stock production and increase of wildlife. We are encouraged that the opening of new grazing areas would increase livestock by 15,000 Animal Unit Months (AUM), and deer and antelope, 1239 AUMs.
2. We support this action because of the increase of income to the BLM as well as personal income for Otero County residents.
3. The land would be more open to use by local people for recreational activities such as hunting.

We are concerned, however, that care be taken to determine if there are religious or historical sites of native peoples in the area which might be damaged, and if so, that these be protected. We are also concerned about the practice of competitive bidding for leased areas. We feel this policy discriminates against low income ranchers in the area. Lastly, our primary objection is that the proposed action does not go far enough. We hope that more land will be opened for grazing in the future.

Therefore, we also give our support to Alternative C, as a complement to the proposed action. This would open 84,000 more acres and 11,703 additional AUMs. All together, this would provide a total of 326,950 acres for grazing. It would decrease military operations in the area as well as prevent more acres from being lost to fires related to missile crashes and defense ordinance. If not in addition to the proposed action, then this might be a feasible alternative.

<sup>25</sup> The DEIS ignored a seventh alternative which we would refer to as Alternative G, The Peace Conversion Alternative, - all of this land opened to grazing and public use. This alternative was explored briefly in the DOA Impact Statement on the McGregor Range in August of 1977. We propose that this withdrawal to the DOA be cancelled, and that 626,389 acres

15-1

of the McGregor Range be returned to public use for grazing, recreation, and such other activities as have a minimum amount of adverse impact, provided any religious and historical sites are protected.

The program of air defense and air defense training should be critically reevaluated. Each missile system used on the Range should be analyzed for possible obsolescence or transfer to other ranges. The Ajax, for example, is considered by some military experts to have been outdated by the Nike Hercules. The Hawk will be replaced by the Patriot system. Training for use of the Redeye does not require as much land and could be transferred to other facilities.

Finally, we feel the grazing program is a much more productive use of the land than the current military use. It should be improved; expanded until it eventually replaces the military operation.

Thank you for accepting and considering our perspective on the McGregor Range DEIS.

C  
4

Craig Simpson  
The New Mexico Peace Conversion  
Project

15-1 The alternative of no military involvement on McGregor was properly the subject of the DOA Impact statement cited in the comment. Evaluation of grazing management alternatives was conducted separately from the evaluation of the withdrawal; only grazing management alternatives were considered in the DEIS.



## OTERO COUNTY WILDLIFE FEDERATION

P. O. BOX 862  
ALAMOGORDO, NEW MEXICO  
88310

June 12, 1980

FROM THE OFFICE OF:

District Manager  
Las Cruces District Office  
1703 N. Valley Drive  
P.O. Box 1420  
Las Cruces, New Mexico 88001

Dear Sir:

Board members of the Otero County Wildlife Federation have reviewed your EIS on the proposed McGregor Range Grazing Management program and wish to make the following comments:

1. The proposed action and seven alternatives were reviewed and evaluated as they related to eleven of the eighteen resources listed on the left hand column of Exhibit B. The first six and the last item were eliminated from consideration as we wished to evaluate only those items pertaining to the biological and physical environment. Alternative B fell out as the preferred alternative under our evaluation system, however; we feel that good grazing management and the improvements associated with grazing are more in line with multiple use objectives. In addition, we don't want the deer herd reduced as predicted under this alternative.

In view of this, we would recommend that alternative F be implemented in the affected area. Reducing grazing in Pastures 3,4, and 5 would provide more capacity in this key mule deer winter range. This area will become more important as winter range as the Timbren Land Development continues to infringe on and destroy mule deer habitat in the lower Sacramento River. If this alternative is selected we would advocate periodic cattle use if and when it is determined that key browse species are growing out of reach of mule deer.

2. Page I-11 states "Water rights for the Odrogrande pipeline are owned by the City of Alamogordo. To expand existing water use to serve new facilities along this pipeline, it would be necessary to secure permission from the City". We feel that this permission should have been secured prior to developing and finalizing this EIS.

We appreciate the opportunity to comment on this very important decision. Please notify us if we can be of further assistance.

*Claude O. Wener*  
Claude O. Wener  
President

16-1 The Odrogrande pipeline, which diverts water from the Sacramento River, is owned by the City of Alamogordo. Alamogordo signs the City of Alamogordo to this pipeline. In addition, water companies McGregor Range then acquire the right to use these outlets on the pipeline. Of the Sacramento River water rights, 3 million gallons per day (gpd) are owned by the City of Alamogordo; Odrogrande uses an estimated 30,000 gpd of this. ODR owns 60,000 gpd plus anything which is available above Alamogordo's 3 million gpd. Public Service uses about 135,000 gpd off the Odrogrande pipeline; the addition of facilities will increase their use to about 11,000 gpd. The permission needed from Alamogordo is for increased use of the pipeline, not for water rights. BLM anticipates no difficulty in obtaining this permission; if Alamogordo does object, BLM will supply the needed water by extending their own pipeline down through Cule Canyon, and/or by drilling more wells.

17



United States  
Department of  
Agriculture

Soil  
Conservation  
Service

Box 2007  
Albuquerque, NM  
87103

June 13, 1980

Mr. Daniel C. B. Rathbun  
District Manager -  
Las Cruces District Office  
1705 N. Valley Drive  
P.O. Box 1420  
Las Cruces, NM 88001

Dear Mr. Rathbun:

This office has reviewed the OEIS for the McGregor Range Grazing Management Program.

We consider the DEIS an excellent document presenting good inventory information and utilizing sound technical methodology in arriving at resource impacts.

There are no activities or projects of SCS which would be negatively impacted by the proposed alternatives.

Thank you for the opportunity of making the review.

Sincerely,

*Ray T. Margo*  
Ray T. Margo  
Acting State Conservationist

W  
G

18

Socorro, N. M. 87801  
June 16, 1980

District Manager  
Bureau of Land Management  
1705 N. Valley Drive  
P.O. Box 1120  
Las Cruces, N. M. 88001

RE: McGregor Range

Dear Mr. Hatfield:

The U. S. Army has taken an excessive amount of land in New Mexico.

The public demand for grazing land will increase in the years ahead. It is imperative that McGregor Range is prime grazing land and should be utilized to full capacity. I urge the return of the land to the original owners, and if that is impossible, a Co-Use.

We strongly object to a "withdrawal" of the land from public use, from the U.S. Department's Bureau of Land Management.

Yours truly,

*Mr. & Mrs. W. F. Martin*  
Mr. & Mrs. W. F. Martin  
Box 1006  
Socorro, N. M. 87801



1812 Scenic Drive  
Albuquerque, New Mexico 88310  
June 16, 1980

Mr. Rathbun, District Manager  
Las Cruces District Office  
Bureau of Land Management  
1705 N. Valley Drive  
P.O. Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun,

This letter is a reply to your draft of the environmental impact statement on the proposed McGregor Range Grazing Management Program. Overall, you are to be commended on a well thought through EIS for grazing on McGregor Range. There are a few items in the EIS that I feel need further clarification or explanation.

The most acute problems which surfaced in your EIS pertain to water and perhaps water rights. In chapter 1 you stated that water rights for the Otero pipeline are owned by the City of Alamogordo. Considering the water shortage to which the city fathers of Alamogordo continually refer, is securing permission from the city for livestock possible?

The City of Alamogordo does not own all the water rights to the water in the Otero pipeline. How many gallons per year is your agency entitled? Do the new watering facilities from the pipeline provide over and above your present allocation? If so, does your agency intend to purchase additional water rights?

Perhaps it was stated, but I failed to read the duration of time water will be available at the drinkers. I trust water will be available year round to handle the water requirements of the wildlife populations when the pastures are rested from livestock use.

In chapter 3, table 3-3, approximate animal units months utilized if proposed action were implemented, you stated 4 important assumptions. Your first 2 assumptions may be true if the long-term trend of a pasture is static. If a pasture has an upward trend, herbage yield can increase with increased utilization.

Your third assumption is true if the key forage species are 100% of the entire herbage resource. In a broomsedge bluestem plant community you will not have 50% use on bluestem and a 50% utilization on the other herbage species which are low in palatability such as Aristida spp.

Your explanation of calculated AUM's in appendix C as you suggest, is conservative and allows ample forage for wildlife species.

19-1 See response to comment 16-1.

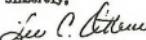
19-2 water will be available yearround; refer to item 10 on page 1-a of the DEIS.

19-3 Refer to page A-13 in the DEIS for a discussion of the assumption that 50% utilization of key forage species would be equivalent to 30% utilization of all forage. As discussed on that page, actual utilization would be less than 50%, but this is not expected to alter the magnitude of AUMs calculated to be available.

Mr. Rathbun  
June 16, 1980  
Page 2

Thank you for giving us the opportunity to participate in this proposal.

Sincerely,

A handwritten signature in cursive ink, appearing to read "Lee C. Otteau".

Lee C. Otteau  
Member of the Audit Committee  
New Mexico Chapter  
The Wildlife Society

LCO:dko  
cc



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE

Field Supervisor  
Ecological Services  
U.S. Fish and Wildlife Service  
Suite C  
3530 Pan American Highway, NE  
Albuquerque, New Mexico 87107

June 13, 1980

Memorandum

To: District Manager, Bureau of Land Management,  
Las Cruces, New Mexico

From: Acting Field Supervisor, FWS, Ecological Services,  
Albuquerque, New Mexico

Subject: Review of the Draft Environmental Impact Statement on Grazing  
Management to the McGregor EIS area, Otero County, New Mexico  
(BLM) (District Manager Rathbun's undated transmittal)

We have reviewed the subject document and offer the following general and specific comments:

(c)

General Comments

The draft appears to evaluate grazing management based upon only one year of field data, collected during 1979. It is not stated whether or not the 1979 field survey was conducted over the entire year or for only part of the year. When measuring and allocating forage resources it would be preferable to collect a minimum of two years field data in order to have comparative data. Because the basis of grazing management requires an adequate analysis of forage resources it would appear that the best possible evaluation of condition is mandatory before developing management plans or allocating resources.

20-1

Efforts should be made during the monitoring program to prove or disprove the numerous assumptions made in the draft statement on pages 3-1, 3-10 and 3-11. The monitoring program should also make efforts to conduct an ecological study of the antelope herd to determine the reasons for their low numbers.

20-2

We support the concepts of moderate grazing, growing season rest and flexibility to adjust stocking levels.

20-1 As clarified on the revised DEIS p. 2-1 (PEIS p. 83), the survey was conducted in summer, 1979. Additional data would be helpful. However, the data gathered on McGregor Range in the summer of 1979 are subject to many year-to-year variations due to BLM personnel and are in agreement with limited quantitative information (gullet counts, browse transects, trend plots) gathered throughout the years. Because of the limitations in field data, BLM will rely heavily on monitoring (that is, ongoing field observations) as the basis for adjusting its live-stock and wildlife management efforts on McGregor Range in order to achieve the objectives.

20-2 The monitoring program described in the DEIS (see especially Appendix B) will be used to determine if the assumptions are valid. BLM will cooperate with the New Mexico Game and Fish Department (NMFGD) to determine the factors which cause fluctuations in the antelope populations. Because antelope numbers have been low in many areas in recent years (although currently on the rise), the causal factors probably include conditions which occur outside McGregor Range, and thus study of the problem would be most effectively accomplished by the NMFGD.

# 20

2

## Specific Comments

- 20-3 Page 2-24, 2nd sentence. The statement is made that during field work runoff was observed to by-pass some stock tanks. Will the tanks be relocated to catch the runoff?
- 20-4 Page 2-26, Game Animals, 3rd paragraph. It is stated that brown studies show mountain mahogany, skunkbush and oak are the most important shrubs in deer diet; however, on page 2-2 the key forage species for deer are listed as mountain mahogany, desert ceanothus and apache plums. It is also mentioned on page 2-28 that brows in canyon bottoms is rated as a relatively good condition; however, on page 2-13 it states that the range condition in most drainages in pastures 3, 4 and 5 to be in poor condition, perhaps indicating that brows species have been heavily utilized. These apparent discrepancies require clarification.
- 20-5 Page 2-29, 1st paragraph. The draft indicates that in southern New Mexico it is likely that winterfat is substituted for some sagebrush in antelope diet. How common is winterfat on McGregor; specifically on Otero Mesa? If winterfat is not common then it may not be an important winter substitute for McGregor Range.
- 20-6 Page 2-29, Small Game. If quail are characterized by extreme fluctuations in population size, then how can high densities of quail be related to light grazing? In other words, in areas of light grazing, quail must experience population fluctuations. Reasons for fluctuations can include many factors, one of which is probably grazing pressure.
- 20-7 Page 2-31, Threatened or Endangered Species. It is stated that the peregrine falcon was not observed during the study. Page 2-30 indicated that potential nesting sites for peregrine falcons occur in the rislands. However, it is not indicated whether or not the rislands were surveyed for any length of time to document the presence or absence of peregrine falcons or nests. If the question of presence of peregrine falcons is important to management decisions, specific and intensive surveys should be given consideration.
- 20-8 Page 3-2, Key Forage Species. Were any measurements conducted to determine what percent of the plant communities or pastures were composed of key forage species?
- 20-9 Page 3-3, 1st paragraph. It is stated that, "The apparent cause of the decline in vigor in the non-grazed areas is the accumulation of litter, which prevents tillering except on the outermost part of the clump." Has data been collected or does literature indicate that litter accumulation causes a decline in the vigor of grasses in semi-arid areas?

- 20-10 Evaluation of the need to correct bypass problems would be part of the duties of the range conservationist. In some cases, redirecting of bypass flows could occur so that such flows reach stock tanks.
- 20-4 As discussed on DEIS p. 3-2, key forage species are plants which are: readily utilized by grazing animals; reasonably abundant; and useful indicators of change occurring within a vegetation type. These species are not necessarily a dominant source of food for grazing animals. A species such as apache plum is a key forage species because it is sensitive to use, and provides wildlife managers with a means of determining the degree to which deer are affecting the plant community. Species such as sagebrush and oak may be more important as a source of deer food, but are less useful as ecological indicators and are therefore not key forage species.
- 20-5 The condition ratings shown on the map on DEIS p. 2-13 reflect the key forage species for cattle. Although cattle use in canyon bottoms is heavy, deer use is relatively light. Thus, while the plant community has a poor condition rating for plants important to cattle, the plants important to deer are in relatively good condition.
- 20-6 Winterfat is not common on McGregor Range, and may not be an important substitute for sagebrush on the Range. DEIS p. 2-29 has been revised; refer to Errata section in FEIS, p. 79.
- 20-7 Climatic factors are the major cause of fluctuations in quail populations. The high densities of quail on McGregor Range are probably the result of light grazing pressure, good range condition, and abundant protective cover. Increased grazing pressure could result in reduced quail populations, when compared to numbers which would occur under lighter grazing.
- 20-8 The proposed action has essentially no effect on the Rislands and thus would not be expected to impact peregrine falcons. BLW has coordinated with FWS regarding this species. FWS has concurred with the timing of no impact; see DEIS p. 3-2, figure 3-4, page 96-97. BLW performed no surveys to locate falcon nests. COA is currently performing a thorough study of the Range to determine if any peregrine falcon nesting sites occur. The results are expected to be available in 1980. Prior to any construction activity, BLW will perform site-specific environmental studies which would amend other steps, including ways to locate any peregrine falcon habitat. If nests would be adversely affected, the improvements being constructed would be relocated.
- 20-9 The field studies are discussed in detail in a support document, which includes Peters et al. (1980) in the References section of the DEIS. This document contains tabulations of the species composition (key species and others) in each plant community and pasture, which are based on field transects performed in the summer of 1979. However, the data do not represent a precise evaluation; rather an approximation based on limited field studies.
- 20-10 References include Werner and Roland (1952) cited in DEIS, and Langer (1963), cited in FEIS (see p. 80). Tillering in herbage grasses; Heritage Abstracts, 37141-148.

- 3  
 20-11 Page 3-5, No. 5 and page 3-7, No. 4. Statements on these pages imply that grazing will not influence vegetative change. Buffington and Herbel indicate, in their 1965 article entitled "Vegetational Changes on a Semidesert Grassland Range from 1858 to 1963," that heavy grazing has been a contributing factor in the reduction of grasslands. They also cite evidence that once established shrubs and half-shrubs can maintain a competitive edge over grass species and the elimination of grazing will not bring back a grassland. The discussion regarding the influence of grazing on vegetation should be further evaluated in the final.
- 20-12 Page 3-7, last paragraph. There is no date nor literature presented to indicate if increased or decreased plant hummocking is an indicator of range deterioration.
- 20-13 Page 3-9, 1st paragraph. It is stated that, "Wildlife utilization is not placing a stress on the vegetation resources," however, on page 2-10, Utilization of forage, it is stated that "No distinction was made between wildlife and domestic animal use." These statements appear to require clarification or at least should be qualified.
- 20-14 Page 3-9, 2nd paragraph. It is indicated that range fires are beneficial to livestock use. What are the effects of range fires on wildlife?
- 20-15 Page 3-9, 3rd paragraph. The DEIS states "Thus natural processes would be unlikely to allow the affected areas to reach their potential as a forage resource." Since there is no date presented to support this statement, it should be qualified. There is our view that natural processes have been interrupted on McGregor and elsewhere in southern New Mexico. It has been the interruptions, which are cattle grazing, which have contributed to the decline of grassland communities. The results of these interruptions have been shrub invasion, and once established, the shrubs may prevent the regrowth of grasslands. Reference is again made to the article by Buffington and Herbel.
- 20-16 Page 3-14, Effects of increased ALMs. It is stated that, "A value of ten percent is representative of the average differences (decrease) described by these references." How is the ten percent figure calculated, and why is it representative? Will the monitoring program evaluate the expected decrease of productivity on McGregor Range?
- 20-17 Page 3-14, last paragraph. It is not understood how a conservative evaluation can be a worst-case evaluation. Since it is assumed
- 20-11 The statements cited indicate that grazing does not necessarily affect the abundance of certain species which have limited value as forage, such as creosotebush and broom snakeweed. Grazing does influence vegetation change; however, it is important to recognize that not all vegetation change is determined by grazing history. Statements such as number 2 and 4 on OEIS p. 3-7 clearly indicate that heavy grazing can contribute to vegetation changes. On McGregor Range, qualitative observations by the EIS team suggested that soil disturbance by small mammals may be a factor contributing to increases of the low-value species, while fire appears to control the spread of these species.
- 20-12 The observation that persons working on rangelands often take increased hummocking as an indication of range deterioration is based upon the experience of Dr. Russell Pettit of the EIS team.
- 20-13 The statement is to be qualified by noting that it was based on the absence of stress on those species identified as key forage species for deer, and by the observation that all areas of grazing-related stress on vegetation were clearly associated with livestock concentrations.
- 20-14 In the short-term, fires may be fatal to wildlife through direct killing or habitat destruction. Over the long-term the effects vary, being beneficial where fires remove low-value species and improve vegetation production.
- 20-15 Once established, shrubs and half-shrubs can maintain a competitive edge. It is noted that an elimination of grazing will not bring back a grassland. The EIS team concluded that, while cattle grazing may have contributed to the decline of grassland communities in some areas, the principle causes of shrub and half-shrub abundance on McGregor Range were natural.
- 20-16 Refer to Table A-14 on page A-52 of the East Socorro Final Environmental Impact Statement. That table provides literature citations containing data on the change in vegetation production when livestock use was reduced from 100% to 0%. The average value derived from the literature cited was a 22% increase. The statement cited by comment 20-16 refers to the inverse situation, in which use will increase from light to moderate, and production will decrease. The conclusions of Table A-14 were utilized (along with the additional citations given in the DEIS) and adjusted based on the experience of the EIS team. The estimate of a 10% decrease in production was the result of this effort.

on page 3-10 that 50 percent utilization of key forage species will cease 50 percent utilization of the entire herbage resource, then will the assumed 10 percent productivity reduction be primarily of key forage species? Will measurements be made to determine the decline in productivity of key species?

20-17

Page 3-22, 2nd paragraph. Mention is made that 50% utilization would result in build up of debris. Would the debris left in place from grazing have a similar effect upon plant vigor as litter is stated to have on page 3-37?

20-18

Page 3-27, Deer. In the past deer movements have occurred during winter months, from Forest Service land in the Sacramento Mountains to McGregor Range. This movement may have been altered by development of the subdivisions north of McGregor. Does deer forage utilization need include these possible deer movements?

20-19

Since the draft indicates deer dynamics on McGregor Range are not well understood, monitoring activity should be conducted in order to better understand the dynamics. If deer information was collected this may improve efforts to allocate forage.

20-20

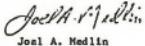
Page 3-28, Antelope. If data is not available to predict grazing impacts on plants species of importance to antelope diets, then it cannot be said that moderate grazing would have minimal adverse effects.

20-21

We support the implementation of the proposed alternative, however, we believe high priority should be given to the monitoring program to insure that wildlife resources are continually protected. If the monitoring program reveals impacts are occurring, suitable corrective action or mitigation should be incorporated into grazing management at McGregor Range. Close coordination should be maintained with the New Mexico Department of Game and Fish, Fish and Wildlife Service, and U. S. Forest Service during implementation of the grazing management and monitoring program.

20-22

Thank you for the opportunity to comment on this draft statement.



Joel A. Medlin

cc:  
 Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico  
 State Director, Bureau of Land Management, Santa Fe, New Mexico  
 Regional Director, FWS, Ecological Services, Albuquerque, New Mexico  
 Area Manager, Phoenix, U.S. Fish and Wildlife Service, Phoenix, Arizona

20-17 It is felt that the prediction of a 10% decrease in production can be made since such a change might occur under worst-case conditions. However, if the range is relatively stable, the prediction is that in reality the change might be essentially zero. To make a projection of zero change might be unduly optimistic; a more cautious approach is to assume that the worst-case change could occur, and base impact predictions accordingly. The word conservative is used in the sense of being cautious. Monitoring studies will be used to determine productivity changes resulting from the proposed action and to make further adjustments in management if necessary.

20-18 The debris is, in fact, litter. Moderate grazing will reduce litter compared to 100% practice of light grazing, and will improve plant vigor (see full discussion on DEIS p. 3-18). However, litter will still be relatively abundant, thus providing significant protection against soil erosion.

20-19 Deer forage utilization has taken into account deer movements in winter.

20-20 Such monitoring is incorporated into the proposed action (see Appendix A of the DEIS).

20-21 The prediction of minimal impact is based on the reasoning set forth on DEIS p. 3-28, and is speculative to the extent that this reasoning is based on assumptions rather than observations. Ongoing monitoring will investigate antelope populations.

20-22 The proposed action includes monitoring and coordination as set forth in this comment. Coordination has been good in the past, and monitoring will be improved with the hiring of a full-time range conservationist.



## COOPERATIVE EXTENSION SERVICE

NEW MEXICO STATE UNIVERSITY

BOX 341, LAS CRUCES, NEW MEXICO 88003  
COLLEGE OF AGRICULTURE AND HOME ECONOMICS

June 17, 1980-

Mr. Ed Webb  
 Bureau of Land Management  
 1705 N. Valley Drive  
 Las Cruces, NM 88001

Dear Mr. Webb:

We appreciate the opportunity to comment on the McGregor Grazing Environmental Statement. The Bureau is to be commended on their attempt to survey, record, and complete the Environmental Statement in the time period that was available. It is evident that much effort has been invested in the preparation of this statement.

The following comments were prepared by the Range Improvement Task Force at New Mexico State University. The Task Force is an interdisciplinary team of specialists in Range Ecology, Range Brush and Weed Control, Wildlife, and Economics. Additional input were received and incorporated in the statement from faculty members of the New Mexico State University College of Agriculture.

The comments are intended to be directed at the processes and methods in the draft statement, and are not directed toward any one individual or individuals within the Bureau of Land Management. When individuals or an organization expend as much effort and time in a project such as this Environmental Statement, any criticism of the statement many times is confused with criticism of an individual or organization. We trust that these comments will be received in the light of addressing the process and not be taken personally by anyone within the Bureau of Land Management.

Respectfully,

*Jerry G. Schickendantz*  
 Jerry G. Schickendantz, Coordinator  
 Range Improvement Task Force

JGS:bm

Enclosure

An Analysis of  
The McGregor EIS Area, New Mexico

by

Range Improvement Task Force  
 New Mexico State University

The McGregor Draft Grazing Environmental Statement represents a satisfactory effort to evaluate the proposed grazing management program for the McGregor Range. While there are shortcomings as pointed out in the following specific comments, the BLM is to be commended on their effort to survey, record and complete the Draft ES under a tight time restraint.

The range survey conducted by the subcontractors (Pattit et. al.) appears well done considering the limits of the data collected. An inventory conducted for a single point in time is still unsatisfactory. The vegetation, range condition and utilization maps were most informative. These maps suggest that under the current management system that livestock carrying capacity is near the desired level.

BLM has recognized that present plant communities are not always associated with past or present livestock use. Plant communities are a product of many factors of which livestock is just one. This type of documentation will allow better interpretation of current land potential and not automatically assume that invader plants are a result of past livestock abuse.

The proposed range improvements (particularly water developments) will improve grazing distribution as pointed out in the ES. A shortcoming in the range survey is the method selected for calculating grazing capacity. This approach as pointed out in our specific comments under range is subject to 20% or greater error. Historical grazing use and the current utilization

patterns are the best approximation as to proper carrying capacity for the McGregor Range. It should be pointed out, however, that calculation of grazing capacity closely approximates the historical use.

While some of the comments which follow are critical in nature of the ES, the intent is to make them constructive so that the BLM can present the most factual Final Environmental Statement.

#### SPECIFIC COMMENTS

The following comments specifically address the adequacy of the Grazing Environmental Statement in the areas of range, wildlife, economics, erosion and water quality. Additional page-by-page comments are also included.

##### Range

In several of the grazing management ES's a formula has been used to calculate carrying capacity or suggested carrying capacity based upon pounds of forage required per AUM divided into the total pounds of usable forage. Any time a constant is used in a formula such as this it can have a tremendous impact on carrying capacity; an impact that may be far greater than any mistakes made in an initial collection of data. Thus, great care should be used in any formula such as this. We sincerely do not feel that any one single intake figure should be used in a formula such as this to determine carrying capacity. Cattle intake can vary tremendously due to size of animals, percent calf crop, weaning weight of the calf crop, as well as type of country, supplemental feed, etc. We feel that carrying capacity 21-1 should be set by using a system of range monitoring to determine trend and utilization.

21-1 Stocking rates are best set through monitoring; this approach was part of the proposed action described in the DEIS (refer to lines 2 through 6 at the top of DEIS page 3-12). It would be ideal if a procedure were available for determining AUMs, incorporating factors such as calf crop, lactation etc. Lacking such a procedure, some basis must be adopted for determining estimated AUMs. The approach proposed only for this purpose. The principal change to the EIS which would occur if a different approach were used would be that the estimate of AUMs would increase, and estimated economic benefits would increase. Predictions as to impacts on vegetation, wildlife, and other resources would be unchanged or, in some cases (for example water consumption) would increase slightly.

In the McGregor EIS (table 3-3) the estimated carrying capacity is based on such a formula. The figures used on cattle intake were calculated to be 1,000 pounds per animal unit. Discussion on pages A-15 and A-16 in Appendix C discusses the formula and its use. The first paragraph on page A-16 states the estimated forage used per AUM as 1,000 pounds, which includes 750 pounds consumed by an average adult cow, and 250 pounds which is trampled, etc. The statement is made "the value of 1,000 pounds per AUM reflects the literature (e.g. Schneider et. al. 1955; Cordove et. al., 1978; McCavley and Dahl, in press)." The three literature citations used to document this statement do not bear out the statement made. The work presented by Schneider, et. al. 1955, is a discussion of a technique

21-2 where the data were collected from sheep. The intake figures reported by these workers, based on consumption per day, was 0.8, 1.7 and 2.2 pounds per 100 pound body weight for adult ram, yearling, and lamb respectively. This data, if it were converted directly to cattle, would show from 8 to 22 pounds per day consumption for a 1,000 pound cow. The second reference Cordove, Wallace and Pieper, (1978) is a good reference, however, your reviewer apparently misinterpreted the data. The following is a quote from Dr. Joe Wallace, one of the authors; "Cordove's paper is the most comprehensive review of intake data available." There is no hint in this paper that the average intake of cows would be 2.7% of body weight. From this review it would appear to be closer to 2%, which would calculate out to 608 pounds of forage a month. The third reference by McCavley et. al., has yet to be published. However, the editor of the Range Management Journal indicated that the article makes reference to forage disappearance in irrigated pastures which are not applicable to McGregor conditions. The last sentence in the first paragraph indicates a non-referenced field measurement of 900 to 1300

21-2 See response to comment 21-1 for a general discussion of the use of the formula. The literature cited in the comment and EIS illustrates that the forage equivalent of an AUM is subject to a considerable range in estimation.

pounds per AUM undoubtedly it is a before and after clipping technique which has been shown to have severe limitations. The following table from 21-2 Laycock et al., (1972) gives a comparison of the clipping methods vs. other methods of utilization.

	<u>Early Summer</u>	<u>Midsummer</u>	<u>Late Summer</u>
Fistula and fecal samples	0.9	1.1	1.1
Paired, clipped plots	2.3	3.1	2.3
Utilization estimates	1.0	1.0	1.1

It can be seen from this table that intake is highly over estimated by 2 to 3 times when using a paired clip plot method, and thus, would be quite unreliable in predicting intake.

In a recent article published by Rosiere et. al. (1980, Journal of Range Management 33:70) the intake for lactating and non-lactating cows (same age) was estimated. These workers showed intakes to be 2.5% for lactating cows and 1.5% for non-lactating cows in June (early lactation). By August the intake had dropped to 1.7% for lactating and 1.2% for non-lactating cows.

As mentioned earlier in this discussion we do not feel that any one figure should be used in such a formula to calculate carrying capacity. But, if one is selected, a figure around 650 pounds to 675 pounds, at the most, per AUM should be used. Intake varies due to the size of the cow, percent calf crop, weaning weight, stage of lactation, etc. Most of the scientific data has been collected on steers or lighter weight animals and a direct percentage intake comparison particularly converting to mature cows can not be used. This method will over estimate, by quite a bit, the intake. We must consider also, the different times of the year or different stage of production for a beef cow. The intake is considerably different when she is dry vs. when she is lactating, as shown by Rosiere et. al. One also need to consider the intake of the calf, the size of the calf, and again the percent calf crop is important because those cows without calves will be dry all year and, thus, their intake will be at a lower level.

We have calculated the year around intake of animals using, as a basis, the material presented by Cordova and Wallace, Rosiere et. al., the NRC, tempered by the experience of the personnel at RMSU. These intake calculations considered the different times and stages of production (lactation, dry, etc.). The program takes into account the size of the cow; the number of months that she will be in heavy lactation, the number of months that she will be lactating at a lower rate, as well as the months that she will be dry, or in the last third of gestation. We also calculated the intake of the calf for the period of time calves are run with the cows and the amount of grass they eat during this time, as well as considering a percent calf crop on the total number of cows and calves. Based on a 1,000 pound cow with a 75% calf crop, which would have a weaning weight of 375 pounds, our calculations predict an intake of 656 pounds per month. Allowing for variation (size of cow, calf crop weaning weights, etc.) the intake would

probably range from 600 to 675 lbs. This figure or one within the range 21-3 should be used in lieu of 750 pounds or 1,000. The percent calf crop determination is based on the average of a recent survey done by Jim Gray and John Fowler in Southern New Mexico (publication in press).

Determining what becomes of forage not eaten by livestock, commonly referred to as "invisible" disappearance, is still a gray area in the research.

Until more data are available, intake or disappearance values should not be 21-4 the first choice in selecting a method for determining stocking rates.

The 250 pound disappearance value attributed to insects, wind, trampling, etc. has some inherent problems. The percentage utilization values are designed to allow for plant vigor, cover, litter, insects, trampling and other presently unquantifiable losses. Our concern is not so much as too the actual value, but how this value is used in relationship to annual plant

21-3 See response 21-1. Predictions as to environmental impacts (such as utilization, productivity, cover, wildlife populations) are based principally on the concept that grazing will be moderate, and would not be changed if the number of cattle AUMs is changed.

21-4 See response 21-1. Stocking rates will be determined by monitoring, not by any assumed value of forage intake and disappearance.

production, utilization, cover, litter, etc. requirements. We do not feel  
 BLM is ready to make allocations of forage based upon present knowledge.

21-5 This seems to be an initial step in the allocation process. Another concern  
 is that once a figure gets put into print by BLM, then it becomes "gospel"  
 even though it is proclaimed as only a guideline.

#### Wildlife

The McGregor draft ES appears to be an improvement over previous environmental statements in context and completeness, yet there is still room for improvement in many of the wildlife sections. In the existing environment section under the heading of Wildlife, page 2-26, it states that data on the wildlife of McGregor Range were obtained primarily from a short-term field study in the summer of 1979. It further states that a list of vertebrate species expected to occur on the range is taken from that report. Based on this information collected during a short-term field study during the summer of 1979, the ES reports that the co-use area provides habitats for

a well balanced assemblage of wildlife communities. A short-term field study conducted during only one summer is inadequate to determine the total species diversity on the McGregor Range. Additionally, there is insufficient

21-6 data to make the statement that a well balanced assemblage of wildlife communities exists on the co-use area. An intensive inventory needs to be conducted to determine all species existing on the co-use area. Only after information is available, can the determination be made as to whether a well balanced assemblage of wildlife communities do actually exist on the area.

21-7 Implementation of the proposed action will include the hiring of a full-time range conservationist to manage grazing on McGregor. Will this individual also be in charge of monitoring programs which include browse utilization and

21-8 See responses to comments 21-1, 21-3 and 21-4. The DEIS does not discuss forage allocations. The use of the formula is a step in the prediction of impacts, not in the allocation of forage.

21-6 The statement about the balanced assemblage of wildlife communities was a reflection of the field studies, which found that all species likely to be found within environments such as encountered on McGregor Range were in fact found; further, population densities were as high or higher than in other areas having generally similar climatic, topographical and vegetation conditions. A second field study would add to the list of species actually observed on the Range, but would not change the findings of the 1979 study which already demonstrate considerable species diversity within the Co-use area.

21-7 Wildlife studies will be performed by BLM wildlife biologists, assisted by the Range Conservationist.

pellet count transects for wildlife? If so, the range conservationist should also have wildlife training in addition to his range background.

Economics

The Draft Environmental Impact Statement, Grazing Management, McGregor ES Areas, contained eight partial page sections dealing with "Socio-Economic Conditions". Also, there were four tables in Appendix G that deal with the grazing base and bidding. None of the above portions included any social or demographic data or analysis. The usual plan was to include only the final dollar estimates of the Benefit/Cost analysis, including ranges of increased incomes over an accumulated 12-year period (beginning and ending) according to the BLM, the lessees, the percentages of total personal income the amounts represented of the Otero County total, and the percentages the amounts represented of the Otero County and New Mexico State Beef Industry.

Economic deficiencies in the draft ES include the following:

- 1. No supporting date were included in the ES to indicate how the final values were determined. In the "Description of Existing Environment", the Socio-Economic Conditions were essentially the above summary amounts based on the 1979-80 existing conditions. Needed are data regarding a detailed description of the leases and lessees over time to permit some background materials for appreciation of both economic as well as social conditions. There are 13 tables in this section; none of the tables deal with either economic or social features.
- 2. There is no basis in the draft ES on which to judge the adequacy of the economic data. Because there are no social data, the draft ES should revise the title "socio-economic".
- 2. The benefit/cost methodology contains several errors. Specifically:

21-8 Supporting data for conclusions reached in the EIS need not be included, provided they are referenced and available for review. The benefit-cost analysis and detailed data on leasing history were (and are) available for review at BLM District Office, Las Cruces.

In the DEIS, information on lessees was included in the section on land use (DEIS p. 2-43), and not the socio-economic section. This was because lessees vary from year to year, and thus there are no socio-logical relationships between the present lessees and the past ones, and the economic relationships are variable. Supporting data regarding leases and lessees was provided in Appendix G of the DEIS (four tables), and (as noted above) in reports available at the BLM District Office in Las Cruces. In response to this and other comments in letter 21, the information on lessees has been moved into the socio-economic section of the EIS (see EIS p. 37-39). Also, a table has been added to Appendix G summarizing distribution patterns of leases and lessees over the past 10 years; see FEIS p. 95.

- a. The investment reported in the "Economic Analysis", referred to on page 1-6 of the Draft ES, was charged off in 4.54 years, based on the factor 0.22 used for most investment items.

21-9 "Economic Analysis", Section III indicated that the number of years before major renovation or replacement was 25 to 50 years. For some improvements (steel pipelines, roads and wells), the investments had no charges, i.e. these were not included as a cost.

- b. Annual BLM and rancher costs are compounded (with a factor of 14.02), while annual BLM and rancher benefits are discounted (with a factor of 9.83). Standard B/C methodology specifies

21-10 that if present values are to be used, they should both be discounted. If future values are used, they should both be compounded. By compounding costs and discounting benefits,

the B/C ratio will be artificially low.

- c. The rate used for discounting and compounding over a 12-year period was 3%L. This is about half of that used in standard

B/C ratios.

- d. If the B/C ratio is to be applied only over a 12-year planning

21-12 horizon, there should be some credit added for the portion of investment in range improvements that have not been depreciated to zero, based on the stated 25-50 year lives of improvements.

- e. Values of investments in the B/C economic analysis for several

21-15 range improvements in 1978 in southeastern New Mexico on large-size ranches were 18% of total investment reported in the "Economic Analysis" per mile for water pipelines, 34% for wells,

21-9 The 0.22 replacement factor used in the benefit-cost (B/C) computation represents a replacement in 25 years. The replacement costs are calculated by applying a replacement factor to the original cost of the investment. Improvements that had no replacement charges (i.e., steel pipelines, roads, and wells) are facilities that would require little or no upkeep. Replacement of these facilities would occur at around 50 years. Based on a 50-year replacement, the replacement factor would be zero (0). Cost figures have been recomputed to give credit for depreciation beyond 12 years.

21-10 BLM used the Bureau's standard Benefit-Cost Analysis in which buildup factors are used in computing B/C ratios. Both cost and benefits are computed (discounted) by using a buildup factor of 6.875 percent. BLM's buildup factors do not correspond to standard discounting tables.

21-11 The discount rate used for computing B/C ratios over a 12 year period was 6.875 percent, which was, at the time, the U.S. Government's current discount rate. The discount rate was chosen through use of the buildup factor tables. The discount factor on the standard discounting tables for the same period and same rate would be 7.99 percent.

21-12 Credit has been given to the portion of range improvements that were not depreciated beyond 12 years. The revised benefit-cost ratio is 1.09 to 1. This change has been noted in the Errata (see FEIS p. 79).

21-13 Replacement values of range improvements were based on BLM's past improvement costs on McGregor Range.

77% for dirt tanks, 223% for corrals. What is the source for the values used?

- f. There is a confusion in the "Economic Analysis" in the use of the term "cost". The initial expenditure of capital for range improvements is considered to be an investment that will depreciate over a period of years. The maintenance and depreciation of this investment is considered to be a cost. It is the depreciation, separate from operation and maintenance, that is included in the B/C analysis and is based on original investment.

21-14

g. No data were included in the economic analysis to indicate that BLM and rancher benefits and costs were changed from year to year as the number of AUM's leased increased in the long-term

- h. No data were included in the economic analysis to indicate that BLM and rancher benefits and costs were changed from year to year as the number of AUM's leased increased in the long-term from 42,060 to 57,230. Was this in fact done? An annual schedule of benefits as well as costs should show the year to year changes.

21-15

i. In summary of the B/C analysis, several major inconsistencies suggest that those performing this analysis did not follow standard B/C procedures. The results are not acceptable without

1) the basic annual data needed for computing B/C ratios, 2)

faithful adherence to B/C calculating procedures, and 3) a realistic discount rate.

21-16

j. As indicated previously, none of the materials in the draft ES or the Economic Analysis dealt with social aspects. Data and discussion should be included that describes and measures impacts of the proposed action and alternatives on employment in the area, changes in demographic features of the impact area (not included in the draft ES), and infrastructure changes, in eny.

21-14 The economic analysis includes: (1) the initial cost of the investment and its depreciation over a period of time; (2) annual operating cost; and (3) maintenance cost. This is in accordance with BLM standard benefit-cost analysis guidelines.

21-15 An annual schedule of year-to-year changes was not developed as the rate of improvement is not predictable on a year-to-year basis.

21-16 Basic annual data for the B/C analysis were computed from the BLM buildup factor table. In performing the benefit-cost analysis, standard BLM analysis guidelines were followed. A discount rate of 6.075 percent was used in these calculations.

21-17 See response to comment 21-8. A table indicating distribution patterns of leases and lessees has been added to the OEIS Appendix (see Table G-5, FEIS p. 95). As shown in the table, the uses vary widely from year to year. It is felt that the number of leasehold patterns on the public lands change annually and leases developing an economic dependence on the area; lessees do not develop their own facilities or otherwise participate in land management (except through actions such as salt placement). Therefore, the socio-economic section, restricted to impacts which may be expected to occur, does not contain a discussion of many subjects normally considered in a grazing EIS.

21-4. The B/C analysis does not include indirect benefits and costs.

21-18 Does not BLM contracts specify that income multipliers are to be used to measure these indirect items?

21-5. As no descriptions of the lessees were included in the ES, it was not possible to determine if all of the benefits and costs mentioned in the "Economic Analysis" accrue to those living within Otero County or to those living elsewhere. How can net "benefits" from grazing the McGregor Range be compared to incomes in Otero County if a portion of these incomes accrue to those outside the county? Cattle care, feed and trucking costs, as well as incomes from sales of cattle owned by lessees from outside of Otero County are not

21-6. reported as Otero County income. The comparison made is suspect.

21-20 Can a value of \$5.50 per AUM realistically be assigned to long-term benefits, when the highest bid value ever achieved was \$5.43, and the average value since 1970 was \$3.91?

21-7. No data were presented to support calving rates, market weights and death losses. Calving percentages of 87 and 84, as well as pay market weights of 450 and 425 pounds are considered to be excessive for southwestern New Mexico in an average year.

21-8. Rancher benefits cannot be approximated by selling off the entire calf crop each year. Instead, a herd inventory by age and sex must be determined, death losses and replacement rates calculated, and sales of cull animals as well as calves not needed for replacements, all with their accompanying pay weights and prices, are all needed for a valid estimate of gross sales, or "rancher benefit".

21-18 Livestock adjustments were determined to have insignificant indirect impacts on the economy. Therefore no income multipliers were developed for this study.

21-19 The distribution of benefits and costs is referred to on page 2-43 of the DEIS. The text has been revised so that this information now appears in the socio-economic section on page DEIS 2-45 (FEIS p. 88). DEIS Table G-5 (FEIS p. 93) has been added to the Appendix to further clarify this point. Regarding the distribution of benefits to Otero County, some and the rest of the western beef industry, the purpose was to provide some measure of the economic benefits of the proposed action. Income to specific ranchers or areas could not be determined, since this will vary from year to year depending on who bids on (and wins) leases. However, the figure from the use of the land which was considered most representative of the economic productivity of the unit. The comparison of income thus provides a means for showing the relative importance of McGregor Range as an economic resource. This concession of economic productivity is valid notwithstanding the fact that much of the income benefits ranchers outside Otero County and outside New Mexico.

21-20 Although the average bid fluctuates from year to year, it has tended to increase over time. In 1979-80, the average bid was \$5.38. It is reasonable to expect this figure to increase in the future. See DEIS Tables G-2 and G-4.

21-21 Data on existing calving rates, market weights, and death losses were supplied by operators using the McGregor Range and are therefore considered the most realistic figures to use.

21-22 Rancher benefits give a value of production based on the dollar value of the inventory if sold. Ranch budgets are not available for the area, and are considered unnecessary in this case as most ranchers utilizing the range sell off their herd at the end of the season.

Erosion and Surface Water

- Reviewing the impacts of the present situation, proposed action, and alternatives, suggest that none of the schemes would have any significant detrimental effect on the soils, erosion, or water. Although this is strongly implied, this important point is not specifically stated in the ES. The ES should also emphasize that the adverse impacts on 1D acres of land around each watering facility represents only about one tenth of one percent of the total area.
- The erosion data in Table 2-1 is in units of tons/acre/years and acre-feet/mi<sup>2</sup>/yr. These expressions would be more meaningful if one or the other was used for both wind and water erosion.
- Why was the Pacific Southwest Interagency Committee's method for prediction of sediment production used (p. 2-23) when this approach has been shown to underestimate the actual values (U.S.G.S. Professional Paper 700D, pp B245-B249, 1979.)? The writers of the ES sense problems with the method, as expressed on page 3-22, where difficulties are noted when the method was applied to areas having different intensities of grazing. The credibility of the method can be increased if the units of measurement (acre-feet/mi<sup>2</sup>/yr) are not used but simply the values used as a relative index. The numbers could still be used to compare areas and show expected magnitudes of change.
- Page 2-23 states that the procedures and results are summarized in Appendix D. However, no summarized methods are found there, only results which have meaningless index values because the procedures are missing.
- In table D-2 of Appendix D, why are some channel erosion and sediment transport values lower than the upland erosion values, while other values are higher? Does not the sediment transport in the channel include the sediment from upland erosion? To avoid confusion, it should be explained in this section

21-23 Judgments as to the significance of impacts should be made by each reader. The purpose of the EIS is to provide data so that the reader may base the judgments upon the best available information.

21-24 See response to comment 21-23. DEIS page 3-22 has been revised slightly (see o. 30 of this FEIS).

21-25 Use of comparable units would facilitate the comparison of wind and water erosion within Mescalero Range. However, the units selected are those in current use in the literature. Use of these units allows the estimates made in the DEIS to be compared with estimates made elsewhere in New Mexico and the western U.S. For this reason, the 'standard' units are utilized, even though the wind erosion and water erosion units are different. A conversion factor for general use is that there are 2000 tons of soil to the acre-foot. This allows an approximate comparison between wind erosion rates (in tons per acre per year) and sediment yields (in acre-feet per square mile per year).

21-26 A methodology was needed to estimate annual sediment yield of a large area (515,000 acres) of natural lands. This had to be accomplished, while maintaining the flexibility to accommodate situations that are flexible enough to objectively analyze areas ranging from less than an acre up to greater than 10 square miles in size. The PSIAc method addresses these problems better than other known methods. The ability of the user to proportionately rate the nine factors of the method is its strength, as there is flexibility to adjust with the introduction of additional information. Previous methods included in the PSIAc do not correlate well with measured yields. By definition, the method develops an estimate of a relative range of values, whereby one can objectively compare areas, treatments and/or expected magnitudes of change over areas that range greatly in size. Expressing the values in specific units does not correlate well with measured yields. The PSIAc provides a measure of the physical meaning of the numbers, even if approximate. An alternative methodology such as the Universal Soil Loss Equation was designed for developed areas, and has not been adapted and checked for use in vast areas of natural lands. It requires a sediment transport and channel erosion model to arrive at sediment production. A large number of assumptions must be made to estimate sediment production.

21-27 DEIS p. 2-27 states that the procedures and results of using PSIAc are presented in Allen and Anderson, 1980. DEIS Appendix D only summarizes the results of the PSIAc approach, relying on the cited reference for explanation of standard procedures. For those familiar with PSIAc, the index values given in Appendix D should be meaningful. Others would need to read the report in full, since any summary of procedures would miss important values. Allen and Anderson, 1980 is a support document prepared in conjunction with the EIS. Information in the support documents is of a technical nature and was excluded from the EIS to enhance its readability and use as a decision-making tool rather than a technical report. The support documents are available for review at the San Juan Ranger Office, Las Cruces.

21-28 As indicated above, procedures for obtaining PSIAc values are explained in Allen and Anderson, 1980. Definitions of upland erosion and of channel erosion and sediment transport are included in Table 5 and page 13 of that report. Values are selected from a narrative table, and are relative within the factor (e.g., upland erosion) rather than being relative between factors.

High ratings for channel erosion means that the stream is actually eroding its channel, and thereby adding to the sediment yield beyond whatever is provided by upland erosion. A high rating for upland erosion and low rating for channel erosion would be characteristic of an eroding channel, and therefore low sediment yield. Average values for land use, "before" indicates existing conditions; they are variable because the existing grazing program does not fully provide for proper distribution of livestock. All "after" values are the same based on the assumption that the goal of the proposed action, to more evenly distribute grazing, will be realized.

Definitions for channel erosion, sediment transport, and upland erosion have been added to the DEIS glossary; see Errata section, FEIS o. 79.

what the sediment transport refers to. Isn't it rather strange that the index values for land use before the proposed action are different between natural units, but the same value (1.5) is given for all natural units after?

- On page 2-23, second paragraph, the sediment rate is given as between 0.3 and 0.5 acre-foot per square mile per year. Is this an acceptable range? How does it compare to bare ground for the area and to the same areas covered with its potential natural vegetation?

The compaction paragraph on page 2-23 states that compaction was determined by qualitative observations. What criteria were used to formulate this description? How was it determined that compaction could reduce infiltration on clay soils by 50% and on other soils by 15 to 20%? This section also states

that seed survival may be reduced if infiltration is reduced; shouldn't this be seedlings instead of seeds? Seeds survive better in dry storage. Is breaking of crusts desirable in areas of high wind erosivity (20 to 140 tons/

acre/yr. 621 m<sup>2</sup>) even though plant growth may be restricted somewhat?

The surface water quality section on page 2-24 refers to Table 2-8 for quality types collected on McGregor. At what periods within a year were these points sampled? Are five sample points adequate to characterize the water on one-half million acres? The report by Jenkins and McGough (1980),

from which these data were taken, contains twenty-four sample points, while the ES contains only a selected five sample points. It is obvious that these points do not represent those in the report when the ranges of values of the ES are compared to the Jenkins and McGough (1980) report. The ES would be more complete and accurate if it contained more of the discussion and all of

Table 2 by paragraph 00 page 2-24 of the ES.

On page 3-22 the ES says that wind erosion and sediment yield would increase with the proposed action because of a reduction in the protective

21-29 The existing sediment yield of 0.3 to 0.5 ft<sup>3</sup>/square mile would be considered a relatively low value for an arid region. No estimates were made to compare existing sediment yields to those under conditions of bare ground or potential natural vegetation.

21-30 Compaction estimates were made on the basis of field examination and review of available Soil Conservation Service data, such as texture. Changes in infiltration rate were based on analogies to differences in infiltration rates of soils with different textures, textures, and structures. For example, clay soils having a structure similar to clay soils which have experienced substantial compaction may have an infiltration rate 50% slower than soils with the same texture but a more normal structure. On this basis, the estimate was made that the compaction could reduce infiltration capacity by as much as 50% on such soils. Similar reasoning was applied to other soils.

21-31 This change has been made in the Errata section, o. 80 of this FEIS.

21-32 The change benefits soil moisture and has adverse effects on erosion. Given the good plant cover over much of McGregor Range, the adverse effects would be minimal. See revised DEIS p. 2-23 (FEIS p. 85).

21-33 The samples were collected and analyzed in August, 1979. (Note that the Support Document by Jenkins and McGough is in error in stating that the samples were taken in April, 1979). DEIS Table 2-8 has been expanded to reflect all of the data obtained in the 1979 field studies (see FEIS p. 86).

21-34 The statements on DEIS pp. 3-17 and 3-18 indicate that cover will decrease near water. This is consistent with the findings reached on DEIS p. 3-22.

effects of vegetation. This statement contradicts the expected results reported on pages 3-17 and 3-18.

The third paragraph on page 3-22 reports the results found with the PSAC method. Is it reasonable that soils which receive so little precipitation, and have such high infiltration rates and low runoff rates could produce such large quantities of sediment? As an example, alluvial fans 21-35 have gravelly sandy loam to loam soils and moderate to moderately rapid permeability (Table 2-1), yet this area has the highest sediment yield. The differences are probably the result of an inadequate method and may, or may not, reflect actual differences between sites. This inadequacy is supported by the statements in the same paragraph which states that the method envelopes the effects of "light and slight" grazing. Is there any statistically or practical difference between 303.9 and 319.1 acre-feet per year? If so, why?

The section on compaction (page 3-24) refers to 800 acres as being 21-36 affected. Are 800 isolated acres in 10 acre plots or 0.016% of the total area a significant amount? The ES states that infiltration rates would decrease to the order of 50% and 15 to 30% for various soils based upon field experience.

21-37 What field experience was this based upon? How were measurements taken to obtain a quantitative value. The ES also states that "the severity of the

21-38 impact is mitigated by the fact that grazing does not occur in the wet season. Can the BLM explain how this occurs? Some areas in southern New Mexico do not experience accumulative annual compaction because of frost heaving during the cool seasons. Why is temperature (the second most influential climatic

21-39 phenomenon occurring on rangeland) essentially missing in the climatic portion of the existing environment on page 2-15? Does frost heaving or other influences which reduce compaction occur here?

On page 3-24, line 2 of paragraph 2 should probably say reduced infiltration

21-35 The literature which discusses relationships between climate and geomorphology makes it clear that semiarid regions generally have high rates of sediment yield (this will be shown in any geomorphology textbook). Among such regions, the climate and sediment yield values for McGregor Range are particularly problematical. In soil and vegetation conditions minimize the erosive effects of runoff. The high sediment yields on the alluvial fans reflects the presence of what is, for McGregor Range, a poor vegetation cover. Slight and light grazing both promote good cover, and thus for practical purposes, the range about the same as the ungrazed vegetation. The stated difference in sediment yield values was given so that any reader familiar with sediment yields could determine the significance of the difference. Although no statistical tests were performed, the difference between existing and future sediment yields is certainly within the margin of error of the PSAC method, and thus could be interpreted as insignificant.

21-36 See response 21-23. As the comment notes, the area affected is a small percentage of the total within McGregor Range.

21-37 This impact was based on: a) experience in relating infiltration rates to soil texture, crusts and compaction; b) observations on McGregor of soil textures, crusts and compaction; c) observations on McGregor of differences in soil characteristics near and far from active water supplies.

21-38 As stated on OEIS p. 2-15, "more than half the moisture falls ... between July-September". This coincides with the period when cattle are removed from the Co-use area.

21-39 Temperature data were provided in Table 2-1 of the OEIS.

capacity could reduce seedling survival instead of seed survival rates. The 21-40 rate is usually not as important as total survival and seeds are actually better preserved in dry conditions.

On page 3-24, sentence one of paragraph three is backwards. Soil aggregate size and stability is positively correlated with infiltration rates, not negatively correlated. This would probably refer to soil cursts. Savory's (1978) 21-41 statements do not reflect research on the subject as the BLM implies -- the statements are merely postulations. What do the terms "slight" and "signifi-cant" mean when used in this paragraph?

The summary on page 3-24 says that erosion would increase near the new 21-42 facilities. Is the increase (2-5%) significant? If it is significant, how important is the increase?

How could increases in erosion take place when "the effects of a change in cover in one small part of the watershed would not lead to measurable

21-43 changes in the total runoff from the basin? (page 3-25)? How do you know that "the decrease in water available for plants would be too small to measure"?

Did the BLM try to measure this? If so, where are the procedures and results?

The ES states on page 3-25 that "increased numbers of livestock would lead to slightly increased frequency of total and fecal coliform contamination 21-44 (Stephenson and Street, 1978)". How does the BLM know that this is true for

the McGregor Range when Stephenson and Street's data were from southwest Idaho?

Increases in sediment yield of 5% (page 5-1) seems high when it is 21-45 reported that the localized change would be a 0.5% reduction in cover.

Would erosion and sediment yield increase by 3 to 7 percent on the total 21-46 area or on the 970 acres (0.2% of the total) (page 8-25)? The statement, as it now reads, refers to the entire area.

When a situation or problem begins to be difficult to explain, references

21-40 Corrections have been made to the FEIS; refer to the Errata on p. 79 of this FEIS.

21-41 See revised DEIS p. 3-24 (FEIS p. 91). The word slight means a small amount, probably less than could be measured using available techniques.

21-42 See response 21-23.

21-43 Erosion is a direct function of runoff and erodibility. In arid lands, erodibility is substantially increased because of limited ground cover (Wilson, 1973; reference added to DEIS, see Errata, p. 90 of FEIS). The increases in erosion will occur only in channels and areas where vegetation and/or significant soil aggregation (as stated on DEIS p. 3-25). DEIS page 3-4 and DEIS Appendix E explain the method used to predict changes in runoff. The change in the amount of water would amount to a few hundredths of an inch, which the EIS team judges as being so small that measurement would not easily detect any change.

21-44 Coliform bacteria are found universally in the intestines and excrement of warm-blooded animals. These coliforms are essentially the same, regardless of the location of the animal. The exact seriological type may vary, but the response to a standard detection technique (e.g. the multiple tube test) is identical. Thus, coliform bacteria can be found in droppings of coliforms as secreted in the feces. Thus anything fecal material contaminates a water, coliforms may be found in that water. The bacteria will die off more or less rapidly (hours to days) depending on environmental conditions such as temperature, pH, and flow rate of the water. The effect seen in Idaho would be similar to that observed in New Mexico since the mean temperature is higher and thus more favorable to bacterial survival. That coliforms are to be found in McGregor water supplies is confirmed by sampling data for this EIS (see revised Table 2-8, FEIS p. 86). An increase in AUMs will increase the likelihood of fecal contamination of the water and thus increase the number of coliforms in the water. Coltharp and others conducted another study in Utah, Colorado, and Montana which also show that cattle grazing leads to higher bacteria levels in water. References for this response include: Gillespie (1980); APHA et al., (1975); and Coltharp and Carling (1975). Full citations are given in the Errata, FEIS p. 80.

21-45 The 0.5% change in cover represents the net range-wide effect of much larger changes which are localized near new water supplies.

21-46 The statement refers to the entire area, rather than the 970 acres.

to literature for related problems in areas different from the McGregor Range should not be conveniently inserted (Pages 3-24, 3-17, 3-25). The ES should 21-47 avoid using references as a means of escaping the scrutiny of questionable procedures (pages 2-18). Contractor's reports, although referenced in the L ES, are often difficult to obtain.

Other Page-by-Page Comments

- Pg 1-1 Objective 2 of proposed action reads "increasing forage production from 49,877 AUMs to 60,000 AUMs." These do not correspond to the 21-48 totals at the bottom of page 1-4 which reads "44,853 AUMs presently L and 61,262 AUMs proposed."
- Pg 1-1 The 15 components of the proposed action appear sound. The 14th 21-49 component would be improved by adding "As necessary, BLM in L consultation with the allottee would cause . . . ."
- Pg xi The ES states that the limited livestock use has resulted in 21-50 a diverse wildlife population including 3,730 deer, 253 antelope, and a variety of small mammals. Are the number of deer and antelope included in this text an approximate number or an actual count? If these are L approximate numbers, it should be reflected in the text.
- Pg xiii Exhibit B shows that the average antelope AUM's will increase to 435 21-51 under the proposed action, stay at 160 in Alternatives A and B, and again raise to 435 in Alternatives C, D, E, and F. Does the BLM have a certain degree of confidence that proposed Alternatives C, D, E, and F will each cause exactly the same average antelope AUM's L to be achieved?
- Pg xiii Average deer and antelope AUM's do not change between many alternatives. Surely not all alternatives will produce the same AUM's for 21-52

21-47 It would indeed be preferable to support all statements with studies done on McGregor Range itself. Since this is not always possible, a second-best choice is to review the literature. This would give an approximate idea of general trends and the order-of-magnitude of effects. Contractors' reports are on file with the BLM District Office, Las Cruces.

21-48 The existing AUMs on DEIS p. 1-1 reflected all AUMs (including all L wildlife grazers) throughout the Co-use area; the values on DEIS p. 1-4 included only cattle, deer and antelope. The value of 60,000 AUMs stated on DEIS p. 1-1 is the objective of the proposed action. The estimate of 61,262 on DEIS p. 1-1 is the value that the objective will be L achieved. Furthermore, DEIS p. 1-1 has been revised so that the value for existing AUMs is equal only to 46,221, the value for cattle, deer and antelope AUMs. Refer to FEIS p. 81.

21-49 Decisions about redistribution will be made at the end of the grazing season and put into effect the following grazing season as part of the lease stipulations. If, for some reason, redistribution of cattle is needed during the grazing season, BLM will consult with the lessees.

21-50 The Summary has been revised to indicate that the numbers are approximate. See p. v of the FEIS.

21-51 The projected deer and antelope populations from the Proposed Action and Alternatives C, O, E, and F represent the optimal populations as determined by the model. The Proposed Action and Alternatives C, O, E, and F would not cause optimal populations to be reached, but would provide forage, water, and more intensive management which would allow the optimal populations to be reached providing other limiting factors are not important. If these factors are not significant, the alternatives would not differ greatly. The proposed action would occur in all cases and provide adequate forage for deer and antelope, and in all cases the level of wildlife management would be significantly increased beyond the present level. The only difference is that Alternative C provides additional water facilities.

21-52 See response to comment 21-51.

these species.

21-53 Pg 1-4 (9.) What delineates an "unimproved" road? If a road is constructed and maintained, is this not considered improved?

21-54 Pg 1-4 There is no guarantee that deer and antelope AUMs would increase as the authors state here and throughout the ES. These could increase and, hopefully, will with proper management.

21-55 Pg 1-4 Item 10 states that at present water for wildlife is being provided on a year-round basis on each pasture. Many of these waters are constructed in such a manner to create a hazard to wildlife; wildlife are unable to escape if they fall into the tank.

L These watering facilities do not provide year-round usable water.

21-56 Pg 1-7 Table 1-2 -- How wide is a road 46.75 miles long which will "disturb" only 66 acres -- 11 ft. or less?

21-57 Pg 1-11 "No species proposed as endangered . . . was identified." Were none found in the area or no others listed for the area? This sentence is confusing in light of previous statements.

21-58 Pg 2-1 Are sand dunes truly "stabilized" as stated in #6 Bolson.

21-59 Pg. 2-10 Table 24 which describes range utilization and condition by pasture does not include or reflect the local increases of utilization near water and in small canyons, nor does it reflect the generally poor condition of land in such areas. Should this table not include this information in order to present a complete picture of range utilization on the McGregor ES area?

21-60 Pg 2-12 2nd paragraph under Range Condition. The last three sentences in this paragraph are contradictory and misleading to the reader. ,

21-61 Pg 2-17 Not a State Highway -- State Road 506.

21-62 Pg 2-28 Eichert, 1978 should be Eicher, 1978.

L Antelope numbers are confusing. Is this a count, count plus

21-53 Unimproved roads are created either by blading or by driving through the area. Such roads are not maintained unless they become impassable to four-wheel drive vehicles.

21-54 See response to comment 21-51.

21-55 BLM policy is to provide escape tanks from water tanks. Such facilities will be provided on McGregor Range, if not already in place.

21-56 Roads cleared by a 10-ft blade will be 10 feet wide; allowing for additional clearing up to the side given as 11 ft. The area affected by construction of 11 ft. in a switchback 46.75 miles of roads gives the estimate that construction will disturb approximately 54 acres.

21-57 The sentence refers to the fact that the FWS letter identified two species which are on the list of endangered species, and no species which are proposed for addition to the list of endangered species.

21-58 See revisions to DEIS p. 2-1 (FEIS p. 93). Areas between coppice dunes still experience some erosion, and sediment is deposited on the vegetated dunes.

21-59 Mapping performed during the 1979 field season was not sufficiently detailed to show utilization levels and condition ratings for small tracts, such as near water and in small canyons. In this respect, the data available for the DEIS were not suitable for predictions of impact from the Proposed Action (or alternatives) considered the general patterns of utilization and condition in such areas, and thus would not be changed if the detailed data were available.

21-60 The contradiction is that the concept of range condition is based on species composition, not necessarily grazing potential. The cited sentences indicate that in most of the grazed area species composition is different than what would be found on ungrazed condition areas. In some areas this difference is due to the presence of species which are of relatively limited value to livestock. However, on the Mesa the different species composition does not correspond with any reduction in grazing potential. Instead, the Mesa vegetation, while different in composition from that on range that would be rated excellent, is dominated by healthy and productive forage grasses.

21-61 The comment is correct. The term "Highway" reflects common usage (including usage among the Highway Department). This correction has been noted in the list of Errata (see FEIS, p. 79).

21-62 This correction has been made in the list of Errata, FEIS, p. 79.

21-63 L correction factor or pure SWAG?

PG 2-27 The figure depicting existing and optimum numbers of deer per section on the McGregor Range, Figure 27, appear to be inflated for the three areas where densities are highest. Only during the winter period,

21-64 When deer concentrate from higher elevations, would numbers approaching 25, 33, and 37 animals per section be realized. Additionally, we feel that optimum numbers from 25 to 45 on a year-round basis would cause certain areas to be over browsed.

PG 2-28 Under the heading of Game Animals, page 2-28 states that there are estimated 3,436 deer on the co-use area. It also states that in the winter, the population is estimated to increase to 4,627. Current

21-65 techniques for estimating deer populations are hardly accurate enough to estimate in hundreds of deer, much less individual deer. It would seem more appropriate to round these numbers either to 3,400 and 4,600 or 3,450 and 4,625.

L Under the subheading "Antelope", a statement is made that the antelope were counted on July 19, 1979 and were estimated to include 107 animals. A count is absolute, an estimate is an approximation.

21-66 These two words should not be used in the same sentence. Counted could be changed to inventoried to make the sentence read more accurately. Additionally, the estimates range from 107 to 253 animals. Since antelope are much easier to inventory than deer, it seems that a more accurate inventory of the antelope population should be available.

PG 2-29 How could predation on antelope or lack of it be documented during the period when field data were collected? The fawning season had ended and fawns were following does and therefore no longer as vul-

21-63 The first two numbers (107 in 1979; 146 in 1978) represent counts made from the air; the counts may not include the entire herd. The number 253 is not a count, but an estimate based on NMGR's projection of 1.5 antelope per square mile on Otero Mesa.

21-64 In accordance with existing coordination agreements, BLM relies upon NMGR for basic information on wildlife. The densities given in the EIS are based on NMGR estimates of existing and optimum levels. Proposed monitoring would be expected to prevent over-browsing regardless of the population which is reached.

21-65 The numbers given are reported as estimates, indicating that the numbers are not precise. The formula utilized estimates of deer per section based on NMGR estimates made by field personnel, and on harvest data.

21-66 See response to comment 21-63. The word "inventorized" has been used in the FEIS; see Errata, p. 79. "The variation in antelope estimates reflects the mobility of the herd; not all of the estimated population of 253 would be on Otero Mesa during the period when an aerial count is being made."

21-67 The EIS team did not document lack of predation. No signs of predation were observed during the field study; predation remains a possible explanation of part or all of the low antelope population.

nerable. This is a very weak statement in view of the difficulties encountered when trying to locate and document predation on wild

L ungulates of such a small population.

Pg 2-29 In the second paragraph, predation and competition for food were listed as a possible source of the problem, although no evidence of either was noted during the 1979 field season. A much more

21-60 expansive time period than one summer field season would be needed to determine whether predation and competition are a source of population limitation. Until this data is available, that part of

L the sentence which implies that it does not exist should be deleted.

Also, in this same paragraph, it states that one cow consumes the same forage as 19 antelope. This is incorrect. Cattle and antelope

L have different forage preferences.

21-69  Pg 2-31 Are there suggested plans for managing endangered species and their habitats -- particularly the Tularosa black-tailed prairie dog?

Pg 2-32 Table 2-9. How can mule deer be 50% browsers and 50% grazers when

21-71 cool season forbs are stated to not be a large portion of the vegetation? No previous studies of mule deer diets in New Mexico have indicated over 10% use of grasses. How can 165 lbs. be assigned

21-72 to antelope when it was previously stated that food habits of this species are not known for the area?

21-73  Pg 2-34 Paragraph 2, the statement is again made that wildlife directly competes with cattle. This statement should be changed to state that cattle and wildlife directly compete for the forage.

21-74  Pg 2-40 The three parcels (NN-030-152, NN-030-155 and NM 030-165) are very poor choices for wilderness. In view of activities from civilians

21-68 More study is needed to determine the factors which cause fluctuations in the antelope population. The sentence as stated does not imply that predation is or is not a cause of the problem; it indicates that predation is a possible contributor to the problem, and that no evidence of predation was observed during the field season.

21-69 According to Springer (1979), the 19:1 ratio reflects the differences in the dietary preferences of cattle and antelope.

21-70  Design feature 3 of the Proposed Action (see Table 1-1, p. 1-7 of the DEIS) provides for surveys and clearance regarding threatened or endangered species prior to any construction. Site-specific environmental assessments will include consideration of species on the State of New Mexico list of endangered species and thus will protect the Tularosa prairie dog, even though the dog is not on the Federal list. This will involve Federal as well as State officers in charge of endangered species programs. With this understanding, the person presently in charge of the New Mexico program (John Hubbard) has agreed that the Tularosa prairie dog will not be affected by the proposed action. No water facilities will be placed near habitats of the Tularosa prairie dog.

21-71 Grazing refers to the use of forbs as well as grasses.

21-72 An adult antelope on McGregor Range is estimated to weigh 165 pounds. The number is a measure of biomass. It is not a measure of forage intake and therefore is not dependent on food habits.

21-73 The sentence states: "...wildlife directly competes with cattle for the available forage." This appears to accomplish the objective of the comment.

21-74 The wilderness review process is now underway. No improvements will be constructed in areas under study. Your comment has been relayed to the study team for consideration in the review process.

and military personnel, there is little chance for solitude and naturalness. It has been lost to military hardware left in the area. Without the contiguous Forest Service lands, Bug Scuffle Canyon (NM-030-165) has little to offer. The terrain of this area almost eliminates the possibility of establishing a road through it.

Pg 2-41 Under the heading of Recreation, the BLM states that there were 1,425 visitor days for big-game hunting and 475 for upland game

21-75 hunting in 1977. It should be mentioned that these are minimum figures. Some hunters of both upland game and big-game are not recorded by the BLM when they enter or leave the area.

Pg 2-43 Under the Livestock Grazing Existing Program, the numbers 4,765

21-76 and 253 for deer and antelope again are used. These numbers appear to reflect an estimate and should be rounded.

Pg 2-44 Under Suitability, subheading 1, Existing Grazed Areas, the statement is made that the rating is assigned because the areas are within

21-77 four miles of reliable water. Does this mean that there are four miles between water supplies or eight miles between water supplies?

"No problems with predators", but no explanation is given for low deer:fawn ratios of antelope and the fact that the antelope herd is declining and has declined for the past 5 to 8 years after predator control was restricted on the area.

Pg 3-2 The statement is made under Key Forage Species that too little is known about antelope ecology to identify key forage species. A

21-79 considerable amount of information is known on antelope ecology in other areas. If this specifically means on the McGregor Range, it should so state.

Pg 3-2 "Too little . . . to identify key forage species." Surely the

21-75 Deer hunter days were obtained from check-in station data. Antelope and small game hunter days were estimated by ODA and BL4 and are probably minimums.

21-76 See response to comments 21-65 and 21-66.

21-77 The maximum distance between water supplies would be eight miles, and the maximum distance that a cow could be from a water supply would be four miles. In most cases, smaller distances occur.

21-78 The statement applies to deer, antelope and cattle and is based on the absence of complaints and/or observations of predation from ranchers, FWS, NMDF, and BLM personnel. This fact means only that the problem is not so great that it is highly evident. The only case of predator control on McGregor Range occurs in the NW corner, where adjacent sheep allotments have had some problems which could be caused by coyotes coming off McGregor Range. NMDF records indicate that antelope numbers are increasing.

21-79 The statement is limited to McGregor Range. This change is noted in the Errata, p. 79.

literature could provide some insight. There are publications from both West Texas and Southcentral New Mexico (Jornada Experimental Range) which list key forage species for antelope.

21-80 Pg 3-5 #5. Who performed these correlations? Where are they and is there a significant negative correlation? What is the value of  $r^2$  for this comparison?

21-81 Pg 3-11 Table 3-3. The data in this table are difficult to comprehend in order to arrive at the projected AUMs. There needs to be an explanation that these are a hypothetical exercise as Appendix C, pg A-15, states there are no actual values of utilization available to make these calculations to obtain 50% (or less) utilization of key forage species.

21-82 Pg 3-19 How much would the Proposed Action accelerate the natural processes which are occurring to the present vegetation -- see Summary, 2nd paragraph.

21-83 Pg 3-27 Under the heading of Game Animals, it states that the proposed action would cause the optimal population to be reached. It also states, however, that the dynamics of the deer population are not well understood. I do not think that the proposed action would cause the optimal population to be reached but it would provide forage and water so that this optimal population may be reached. This same statement follows through the entire ES. The ES should be changed to state that the water and forage are being provided so that these optimal populations can be reached providing other factors do not limit the population below the optimum.

21-84 Pg 3-34 Recreation -- "The following increases in . . . hunting days would occur: -- This is a projection, not a guaranteed action!

21-85 Some response to comment 21-79. Studies in west Texas do not apply, because the herds are on farmland or heavily grazed land. It is not known if their diet reflects preference or necessity. The antelope on Jornada Range constitute a herd only in a loose sense. It is actually several individual antelopes whose numbers fluctuate between 6 and 18. Studies have focused on locating the antelopes. No studies on the diet of the Jornada antelopes are readily available.

21-86 The term "correlation" is used in the sense of "relationship" and does not indicate that statistical analysis was performed. The finding reported in item 5, DEIS 3, 3-19 was made by the EIS vegetation team headed by Professor Russell Pettit of Texas Tech University.

21-87 As noted at the bottom of the table, the methodology used to develop DEIS Table 3-3 is explained step-by-step in DEIS Appendix A. In the Appendix, the hypothetical nature of the estimate is explained. It should be noted that the table was developed primarily to assess the expected impacts of the proposed action. Actual changes in AUMs will depend on monitoring.

21-88 As stated in the cited paragraph, there would be little effect on natural processes. The proposed action would not accelerate the effects of the natural processes by any measurable amount.

21-89 The Proposed Action and Alternatives C, D, E, and F would not cause optimal occupations to be reached, but would provide forage, water, and more intensive management which would allow the optimal populations to be reached providing other limiting factors have no effect.

21-90 The prediction is based on the assumptions previously made, and would occur if these assumptions are valid. The projection is not a guaranteed result.

- 21-81  Pg 8-1 Why are C to F alternatives the only ones considered to implement the proposed action? Surely there are other combinations of grazing duration and livestock numbers which could achieve the proposed action or even a more acceptable alternative for the area.
- 21-86  Pg 8-4 How can the alternatives C to F all give the same benefits to deer and antelopes when there is such a large variation in cattle and total utilization of forage? See Figures 8-1C, 8-1D, 8-1E and 8-1F for references. These assumptions appear quite far-fetched and could not allow optimal densities to be reached in all instances.
- 21-87  Pg 8-26 Wildlife -- How can these actions increase wildlife in Area B when few changes would occur in that area? Area B would receive little or no direct benefits from proposed additional watering facilities.

21-86 An infinite number of alternatives is possible. Alternatives C through F are ways of meeting the objectives of the proposed action. BLM held a public meeting in June of 1979 for the express purpose of obtaining public input regarding the Proposed Action and the alternatives. No input was received at this meeting. Therefore the alternatives originally selected for consideration were not changed.

21-87 See response to comment 21-81

21-88 The Proposed Action would increase the extent of wildlife management throughout McGregor Range, and thus is assumed to have wildlife benefits throughout the Range. There is no assurance that the optimal populations would be reached in Area B, or elsewhere.



## United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE  
SOUTH CENTRAL REGION  
5000 MARBLE AVENUE, N.E., ROOM 211  
ALBUQUERQUE, NEW MEXICO 87110

IN REPLY REFER TO:

DCE-80/23

June 18, 1980

## Memorandum

To: District Manager, Bureau of Land Management, Las Cruces,  
New Mexico

From: Regional Director, South Central Region

Subject: Review and Comment of Draft Environmental Impact Statement  
on Proposed McGregor Range Grazing Management Program in  
Otero County, New Mexico

22-1 [We have reviewed the subject document and have the following comment.  
We urge that coordinating with the State Historic Preservation Officer,  
Thomas W. Moran, continue. His comments on the draft should be  
included in the final statement and his recommendations followed.

*Holland B. Handley*  
Holland B. Handley

22-1 The SHPO comments are provided in letter 30, starting on p. 74 of the  
FEIS. The subject of SHPO recommendations is discussed in the response  
to letters 13 and 14.

UNITED STATES DEPARTMENT OF AGRICULTURE  
 FOREST SERVICE  
 Region 3  
 517 Gold Avenue, SW  
 Albuquerque, New Mexico 87102

1950

Mr. Daniel C. B. Rathbun  
 District Manager  
 1705 N. Valley Drive  
 P.O. Box 1420  
 Las Cruces, New Mexico 88001



1891-1980  
 75TH ANNIVERSARY

Dear Mr. Rathbun:

Our comments on the Draft Environmental Impact Statement, Grazing Management, McGregor EIS Area, New Mexico, are as follows:

- 23-1 The proposal, if fully understood, appears to demand considerable water and makes reference to the Orogroande pipeline owned by the City of Alamogordo. It further states, "To expand water use to serve new facilities along this pipeline, it would be necessary to secure permission from the City." We question if the proposal is viable knowing that existing commitments on this water is now a local problem. If water availability has not been agreed upon with the City, is the proposal realistic? We feel this part of the Environmental Impact Statement needs to be clarified.

- 23-2 We question the advisability of an overall 50% degree of utilization on all forage in each pasture even with the proposed growing season rest. In our opinion, in this area, a 35% overall would be more advisable, or 50% on the key forage species in each pasture.

Sincerely,

*M. Hassell*  
 M. J. HASSELL  
 Regional Forester

23-1 See response to comment 16-1.

23-2 The proposed action would accomplish 50% utilization of key forage species. Overall utilization would probably be in the 40-45% range, as stated on OEIS p. A-15.

STATE OF NEW MEXICO



## Department of Agriculture

GOVERNOR'S CABINET

BRUCE KING  
Governor

Box 5180, NMSSU Campus  
Las Cruces, New Mexico 88003  
Phone: (505) 646-3007

WILLIAM P. STEPHENS  
Secretary

June 17, 1980

Mr. Daniel C. Rathbun  
District Manager  
Bureau of Land Management  
1705 N. Valley Drive  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

In response to Governor Bruce King's letter of May 13, I am pleased to respond to your Draft Environmental Impact Statement on Grazing Management in The McGregor EIS Area.

Proposed Action

The Proposed Action would increase AUM's of livestock to 57,230 and increase AUM's of deer and antelope grazing to 4,032, resulting from construction of improvements, development of new water facilities, and management to allow greater utilization of key forage species. These are laudable goals, and meet the objectives of the proposed action, i.e., to maintain present range condition and trend in areas rated good or better, to stabilize or improve trend in other areas, and to increase the harvest of forage by cattle, deer and antelope from 49,877 AUM's to 60,000 AUM's.

Of equal importance will be the economic benefits derived from this proposal. You estimate an increase in annual income to lessees amounting to \$498,900, and project that revenue to the BLM would increase about \$82,000 per year.

Basically, the proposed action is commendable, and the appropriate benefits will accrue to the resources, the livestock industry and the public at large. However, I must disagree with the Bureau's method of estimating carrying capacity, and this disagreement also suggests revisions in the estimate of the economic benefit of the proposed action.

The BLM uses a formula wherein the pounds of forage required per AUM is divided into the total pounds of usable forage to arrive at a carrying capacity. Moreover, the Bureau used a figure of 1,000 pounds per animal unit to represent cattle intake. In Appendix C, page A-16, you state this estimate "...includes 750 pounds consumed by an average adult cow, and 250 pounds which is trampled... or otherwise utilized." Since there are so many variables involved (the size of the cow, whether she is lactating or dry, percentage of calf crop, etc.), the 1,000 pound figure is simply not reliable and I would refer you to the excellent critique of your position presented by the NMSSU Range Improvement Task Force.

24-1 Refer to responses to comments 21-1 through 21-5.

L

Mr. Daniel C. Rathbun  
 June 17, 1980  
 Page Two

- In addition, I do not understand your assertion that it is "important to ensure that benefits of the proposed action are not overstated...". Isn't it equally important not to underestimate the benefits?

Consultation and Coordination

- You should be advised that the New Mexico Farm and Livestock Bureau is not a State agency (p. 9-5). Further, what is the difference between "Wilderness Society" listed under Conservation Organizations and "The Wilderness Society" listed under Professional Societies (p. 9-7)?
- The New Mexico BLM has promulgated the New Mexico Bureau of Land Management Rangeland Consultation Policy, based on P.L. 92-514 and finalized on November 14, 1979. To what extent, if at all, will this policy be applied to the McGregor area? Further, the EIS states that a Resource Management Plan will be completed "as part of the White Sands RMP" in 1988-1989 and will provide further guidance to BLM's management of the area (1-10). To what extent will the BLM's planning regulations (43 CFR Part 1600) apply to the co-use areas, and more specifically, will the Public Participation provisions (1601.3) and the Coordination With Other Federal Agencies, State and Local Governments, and Indian Tribes (1601.4) be applied to the co-use areas in the same way as they are applied to traditional BLM management situations?

67  
 Thank you for this opportunity to comment on the draft EIS. I am sure the Bureau of Land Management will carefully review all of the public comments and present an excellent final document.

Sincerely,

William F. Stephens

WPS:fd

- 24-2 The prediction of environmental impacts requires what is known as sensitivity analysis. This means that predictions must be looked at carefully to see how sensitive they are to the assumptions used. Sensitivity analysis is a technique which can be used to determine how sensitive there are to differences in the prediction of environmental impacts. In predicting impacts it is appropriate to follow procedures which will highlight this sensitivity. In the specific case of McGregor Range, the Proposed Action has a positive benefit-cost ratio, which indicates that the action will produce a net benefit. These predictions are not sensitive to assumptions which would increase benefits; they are sensitive to assumptions which would decrease benefits, and which might lead to a benefit-cost ratio less than unity. The evaluation of benefits followed assumptions which tended to underestimate benefits, since this approach had the potential to influence the decision making process. The question then is: "Is it important to ensure that benefits of the proposed action are not overstated?" The converse, that understatement of benefits should not occur, would have become important had the benefit-cost ratio approached unity, or become less than one.

- 24-3 The Wilderness Society is a conservation organization; this correction (and that concerning the Farm and Livestock Bureau) has been made in Part 1 of this FEIS.

- 24-4 P.L. 92-514 does not apply to McGregor Range since there are no permanent allottees in the Co-use area, nor any intermixed private or State lands.

- 24-5 Coordination occurs as appropriate and as stated on DEIS pp. 1-10 and 1-11. The principal area of environmental coordination involving BLM concerns grazing, wildlife and cultural resources, within the Co-use area only.

25

PLANNING DIVISION  
STATE CLEARINGHOUSE  
REVIEW CERTIFICATION FORM

MIS 6

STATE PLANNING DIVISION  
DEPT. OF FINANCE & ADMINISTRATION  
505 DON GASPAR  
SANTA FE, NEW MEXICO 87503  
(505) 827-2073

TO: U.S. Department of Interior, BLM  
Las Cruces District Office

DATE: June 25, 1980

SUBJECT:  PRELIMINARY REVIEW       STATE/AREA PLAN  
 FINAL REVIEW       ENVIRONMENTAL IMPACT STATEMENT

PROJECT TITLE: McGREGOR GRAZING MANAGEMENT PROGRAM DEISAPPLICANT: U.S. DEPT. OF INTERIOR, BLM, LAS CRUCES DISTRICT OFFICESAI NUMBER: 80 04 11 048 FEDERAL CATALOG NUMBER: 19 000FEDERAL AGENCY: U.S. DEPT. OF INTERIOR, BLM, LAS CRUCES DISTRICT OFFICE

PROPOSED FUNDING (PER 424 FORM)

AMOUNT

FEDERAL \$ \_\_\_\_\_

APPLICANT \_\_\_\_\_

STATE \_\_\_\_\_

LOCAL \_\_\_\_\_

OTHER \_\_\_\_\_

TOTAL \_\_\_\_\_

## FOR FINAL APPLICATION ONLY:

## REVIEW RESULTS:

- The application is supported.
- The application is not in conflict with State, Areawide or Local plans.
- Comments are attached for submission with this application.

*Betsy Reed*  
LEAD AGENCY REVIEW COORDINATOR

*Sue Ramirez* Division - DFA  
AGENCY

## TO THE APPLICANT:

You may now submit your application package, this form and all review comments to the Federal or State Agency(s) from whom action is being requested.

Please notify the Planning Division (Clearinghouse) of any changes in this project. Refer to the SAI number on ALL correspondence pertaining to this project.

*Dee K. Miller*  
STATE CLEARINGHOUSE

DATE 6/25/80  
Approved July, 1979  
Secretary, DFA

*Dee K. Miller*  
STATE PLANNING DIVISION DIRECTOR

DATE 6/25/80  
White: to Applicant  
Green: to Lead Agency  
Canyon: SPD Copy  
Pink: Lead Agency  
Goldenrod: Federal Funds Tracking

26



STATE OF NEW MEXICO  
NATURAL RESOURCES DEPARTMENT  
Santa Fe 87501  
(505) 827-3167

BUCK KING  
COMMISSIONER

June 16, 1980

WILLIAM S. HUEY  
SECRETARY

Ms. Betsy Reed  
State Planning Division  
505 Don Gaspar  
Santa Fe, New Mexico 87503

Re: McGregor Grazing Management Program DEIS

Dear Ms. Reed:

My staff has reviewed the subject draft environmental impact statement, and has no comment.

Sincerely,

*William S. Huey*  
WILLIAM S. HUEY  
Secretary

PLANNING DIVISION  
 (STATE CLEARINGHOUSE)  
 MIS-4  
 Review and Comment

TO: LAND USE DEPARTMENT, STATE CLEARINGHOUSE

DATE: 5-15-79

FROM: Land Use Dept.

RE: SAI NUMBER PROJECT TITLE

Planning Unit No. 1

LEAD AGENCY

Please review and comment on the above application and return to the sender by 5-25-79.

1. Does this plan duplicate any programs which have similar goals and objectives to the proposed application?

- Yes (If yes, please identify these programs.)  
 No

2. Does the proposed application conform with a comprehensive plan developed for the area in which it is located?

- Not applicable  
 Yes  
 No (If no, please explain in what way it is not compatible.)

3. Does the proposed application conflict with any applicable statute, order, rule, or regulation (federal, state or local)?

- Yes (If yes, please cite the conflicting statute, order, rule or regulation.)  
 No

4. Describe any suggestions or means of improving or strengthening the proposed application.

None

- No interest in, or comment on, this project.  
 Proposal is supported.  
 Proposal is supported with recommendations.  
 Proposal is not supported.  
 Further information needed, review suspended and applicant notified of request.  
 Comments attached.

On the basis of my review, I have indicated my response and/or recommendations above.

J. Bates  
 Signature of Reviewer  
5-16-80  
 Date

Approved July, 1979  
 Secretary, DFA

Chief Planning  
 Title  
Game & Fish  
 Agency

- 1 - white - to applicant  
 1 - yellow - SPD copy  
 2 - green  
 1 - lead agency  
 1 - review division

*National Council of Public Land Users*

P. O. Box 811

Grand Junction, Colorado 81501

Paul Maxwell, President

17 Jun 80

Herbert Snyder, Secretary

Mr. Ed Webb  
BLM, Las Cruces District Office  
P.O. Box 1420  
Las Cruces, New Mexico 88001

Dear Sir:

Thank you for the Draft Environmental Impact Statement on Grazing Management in the McGregor EIS Area.

It is requested that under Chapter 3, Environmental Impacts of the Proposed Action, Socio-Economic Conditions, that the following information be included. This information is considered absolutely essential to analyze multiple-use costs vs. benefits.

WHAT ARE THE ANNUAL COSTS FOR:

1. Administering the grazing program? \$\_\_\_\_\_
2. Loss of non-replaceable topsoil from erosion of the watersheds?  
\$\_\_\_\_\_
3. Topsoil being deposited in expensive water reservoirs? \$\_\_\_\_\_
4. Treating polluted water from the watersheds for domestic use? \$\_\_\_\_\_
5. Irrigating with high saline water from overgrazed watersheds? \$\_\_\_\_\_
6. Elimination of wildlife supposedly competing for food? \$\_\_\_\_\_
7. Damage to fish resulting from polluted water? \$\_\_\_\_\_
8. Damage to all aquatic life due to unstable stream flow resulting from flooding and drought? \$\_\_\_\_\_
9. Farmers having to compete with grazing on BLM lands at \$2.50 an AUMF (This compares with baled hay at about eight (8) cents a bale). \$\_\_\_\_\_
10. Lost precipitation resulting from solar thermal from reflected bare ground in an environment where the annual precipitation is several times less than the natural evaporation? \$\_\_\_\_\_

Yours truly,  
*Herbert Snyder*  
Herbert Snyder, Secretary

Copy to: Natural Resources Defense Council

28-1 The benefit/cost analysis was done using BLM's standard procedures, which take into account items 1 as listed in your letter. The analysis did not include items 2 through 10. A copy of the analysis is available for review at the BLM District Office, Las Cruces.



# HUMAN SYSTEMS RESEARCH

a nonprofit corporation for anthropological research  
P. O. BOX 1225, TULAROSA, NEW MEXICO 88352      (505) 585-2858

July 8, 1980

Mr. Daniel Rathbun  
District Manager  
Bureau of Land Management  
P.O. Box 1420  
Las Cruces, NM 88001

Dear Mr. Rathbun:

I have received your June 13th letter and copy of the Draft EIS for Grazing Management, McGregor, New Mexico. I thank you for soliciting our evaluation of these documents but for the record wish to comment that the approximate week between receipt of the documents and deadline for comment is hardly sufficient for adequate review and submittal of comments. HSR has been on the Las Cruces District mailing list for seven years and regularly attends public meetings.

On Wednesday, July 2, at the request of Mr. Peter Laudeman, Archaeologist, Las Cruces District office, we attended a field meeting at a proposed improvements location on McGregor Range. In attendance at this meeting, in addition to yourself and Mr. Laudeman, were two additional BLM management level personnel, Mr. Don Sparks and Mr. Larry Nunez. Also present were Mrs. Carol Hedrick and Mr. Jerry Fitzgerald of the El Paso Archaeological Society, Mr. Dan Riley of the New Mexico State Historic Preservation Bureau, and Dr. Glen DeGarmo, Archaeologist, U.S. Army, Fort Bliss. From HSR, both myself and Mr. Peter Eidenbach were present. Following in memo form is a summary of what I considered to be the salient points of that meeting:

**Subject:** Consideration of Cultural Resources in the Grazing Units (both existing and proposed new areas), McGregor Range, New Mexico

**Point 1:** BLM has submitted an EIS (Draft) detailing expected impacts from grazing including those effecting cultural resources.

**Point 2:** El Paso Archaeological Society has submitted a review of the EIS (Draft) in which objections are lodged concerning proposed policies (and lack of such) toward cultural resources.

Mr. Daniel Rathbun

2

July 8, 1980

**Point 3:** State Historic Preservation Bureau has reviewed known site locations (primarily the result of surveys conducted by Department of the Army, Fort Bliss and the El Paso Archaeological Society) and has determined that certain known site locations within the grazing areas are eligible for nomination to the National Register of Historic Places. Further, the SHPO has recognized that it is likely that other such locations may exist within the grazing areas and effort should be made to record such other locations as may exist.

**Point 4:** Dr. DeGarmo noted that actual access to the land area involved will continue to be controlled by Department of the Army and, therefore, patrols to protect known cultural resources from potential vandalism will continue to be performed by the Army. He further noted, however, that the Army will no longer be responsible for inventory or management of cultural resources within the grazing areas except as Army actions may be directly involved.

**Point 5:** BLM presented a case example of procedures it proposes to use in evaluation and mitigation of potential direct impacts on cultural resources resulting from construction of range improvements (i.e., water wells, troughs, fences, roads, etc.) outlined in the EIS (Draft).

#### Comments on the Field Meeting:

BLM was commendably represented at the meeting, both from the standpoint of national and regional concern of the management purpose and actual land use procedure. As directly concerns the proposed procedures of cultural resource evaluation and mitigation of direct impact by range improvements, I have the following comments: 1) BLM policy will apparently be avoidance wherever possible; 2) in cases where avoidance for documented resource is not possible, a specific plan for mitigation of impact will be submitted for comment to the SHPO and made available to the public; 3) in cases where sites are found by archaeological clearance surveys prior to construction of improvements, mitigation will often be through nearby avoidance, and technical monitoring methods will be used to evaluate on a continuing basis any impacts which may occur; 4) innovative, inexpensive techniques based on standard BLM range evaluation procedures have been proposed by Mr. Laudeman. Using these techniques, he will both accurately regard any archaeological sites potentially threatened by construction of improvements and will monitor actual impacts of use for which we have little information at present. By collecting and responding to this information, future policies of management can be modified as needed within a conservation ethic. Mr. Laudeman anticipates an annual report from his impact observations. Hopefully, this information can be made available through annual meetings of the professional and amateur agencies within the region. Mr. Laudeman also is anxious to work with members of the El Paso Archaeological Society and other interested parties to insure that known cultural resources within the grazing areas are similarly monitored.

29-1

**Critique and General Comments by HSR:**

A major exception taken to the EIS (Draft) by HSR is the apparent position taken by BLM that grazing does not constitute a significant impact on cultural resources. This is an untested assumption. HSR can introduce evidence that cattle trampling does in fact impact archaeological sites. This is especially true in portions of the existing and proposed grazing units where surface soils are easily disturbed. Not only does trampling by cattle fragment surface distributions of artifactual remains, but surface disturbance of soils allows extensive reduction of site features through erosion. The program proposed by Mr. Laudeman to monitor surface disturbance will provide actual case measurements of both these program factors. It is important that this monitoring program be fully supported and periodically reviewed by all parties so that any apparent dangers to cultural resources can be recognized early and appropriate actions taken.

29-2

HSR specifically objects to the apparent lack of an overall management program organized to protect the known cultural resources and evaluate the remaining areas suspected to contain other important locations. Land use planning appears to be continuing without such a management plan in a brush fire sort of strategy, meeting the problems as they surface as conflicts in program land use, rather than using existing information to anticipate potential problem areas and managing appropriately. Certain cultural resources within the proposed existing grazing areas have been recognized as worthy of inclusion in the National Register. In such cases, non-management strategies cannot continue. An argument that 100 years of grazing has already impacted these sites and therefore no change in land use will effect these locations in the same manner, is not sufficient reason to dismiss the protection of important sites. In fact, the proposed changes in water locations, access roads, and fencing may well significantly alter past grazing patterns. The effects of the altered grazing patterns as well as the effect of continued grazing (for the next 100 years) is unknown. As a public resource managing agency, BLM must move to protect cultural resources in future land use policies.

29-3

A Programmatic Memorandum of Agreement jointly signed by the BLM, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers specifies that Class I and Class II BLM surveys will be conducted for areas falling under the BLM grazing EIS requirements. This agreement specifies that, in certain instances, BLM EIS prepared prior to 1981 will not meet these requirements, but that in such cases, a specific program for conducting these evaluations will be presented by the EIS. No such program is presented in the McGregor EIS (Draft).

An interested professional, I present the following conclusions: 1) Las Cruces District BLM proposals to inventory, avoid and monitor cultural resources potentially directly impacted by range improvement construction and use appear to be both an acceptable and commendable strategy for meeting federal and state legislation; 2) LCD-BLM has presented no plan for meeting its responsibility under the Rangeland Programmatic Memorandum of Agreement with the Advisory Council on Historic Preservation; 3) LCD-BLM has made no attempt to develop a standard program for cultural resource management to meet the need for conservation and protection of known cultural resources within the grazing areas.

29-1 See response to 13-1 and 13-2, and the 3/PD comment letter (letter 30, following). BLM is preparing a study of the effects of trampling on lithic and ceramic artifacts. Lithic artifacts that have been obtained from the flint-knapping box at New Mexico State University and ceramic artifacts will be placed in study plots 100, 200 and 400 feet from watering troughs. The plots will consist of 16 individual ceramic artifacts placed equal distance from each other. Over a period of five years the movement and breakage of the artifacts will be measured.

29-2 The overall cultural management program is governed by: 1) the Programmatic Memorandum of Agreement between BLM and the Advisory Council on Historic Preservation; 2) BLM's ongoing cultural resource management programs; and 3) BLM's decision to review the process of clearance to determine if it can be improved upon.

29-3 See responses to letter 13.

Mr. Daniel Rathbun

4

July 8, 1980

I appreciate very much this opportunity to comment on the McGregor EIS (Draft). Further, I wish to commend the specific techniques of direct impact monitoring proposed by BLM for construction sites. And, lastly, I commend the excellent attitude toward constructive discussion evidenced by you and other representatives of BLM present at the (field) meeting.

Sincerely,

*Mark Wimberly*  
Mark Wimberly  
President

MLW:gcb  
cc: D. Riley, Santa Fe  
C. Hedrick, El Paso Arch. Soc.  
Glen DeGarmo, U.S. Army, Fort Bliss  
C. Spotts, Region 6 EPA

29



HUMAN SYSTEMS RESEARCH  
a nonprofit corporation for anthropological research  
P.O. BOX 1225, TULAROSA, NEW MEXICO 88352  
(505) 585-2858

July 8, 1980

Mr. Clinton Spotts  
Regional EIS Coordinator  
U.S. Environmental Protection Agency  
Region 6  
1201 Elm Street  
Dallas, Texas 75270

Attention: L. Lenard - McGregor Range EIS

Dear Sir:

Enclosed is a copy of review comments sent to Mr. Dan Rathbun, District Manager, Las Cruces District, Bureau of Land Management, in reference to their recently issued Draft EIS for grazing areas on McGregor Range, New Mexico. I hope that you will consider the major points of this letter in your review of the EIS. I have also enclosed a copy of the Memorandum of Agreement referenced in this review.

Thank you for your attention to this matter.

Sincerely,  
*Mark Wimberly*  
Mark Wimberly  
President

MLW:gcb  
Enclosures (2)  
cc: D. Rathbun

MARIE L WIMBERLY  
PRESIDENT

JOHN H PATTERSON  
VICE PRESIDENT

PETER L EIDENBACH  
TREASURER

LEWIS R BINFORD, PhD  
DIRECTOR

W JAMES JUDGE, PhD  
DIRECTOR

J J BRODY, PhD  
DIRECTOR



## STATE OF NEW MEXICO

DEPARTMENT OF  
FINANCE AND ADMINISTRATION  
STATE PLANNING DIVISION

BRUCE KING  
GOVERNOR

DAVID W. KING  
SECRETARY

305 DON GASPAR AVENUE  
SANTA FE, NEW MEXICO 87503  
(505) 827-2073  
(505) 827-5181  
(505) 827-2101

ANITA HISENBERG  
DIRECTOR

JOE GUILLEN  
DEPUTY DIRECTOR

July 14, 1980

Mr. Daniel C. B. Rathbun  
District Manager  
Las Cruces District  
Bureau of Land Management  
Post Office Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

The Draft Environmental Impact Statement on Grazing Management in the McGregor EIS Area, has been reviewed by this office, and we wish to make the following comments regarding the treatment of cultural resources in the Statement.

30-1 [ ] First, the discussion of cultural resources is based on a sample of only one percent of the EIS "rea". We believe that a sample of this small size is inadequate to make meaningful predictive statements or to make management decisions affecting decisions. Our Programmatic Memorandum of Agreement for the Livestock Grazing and Range Improvement Program specifies that Class II surveys providing 5 to 10 percent coverage of the project area will be completed prior to the preparation of a draft environmental impact statement.

30-1 See response to comments 13-1 and 13-2.

30-1

b7c

The Memorandum of Agreement does provide for the modification of this requirement. However, no request to consider such a reduction in the level of survey coverage for the McGregor EIS Areas has been made. No discussion of this Agreement and the attendant stipulations is included in the Draft Statement.

30-2 See response to comment 14-10.

30-2

[ ] Our second subject of comment concerns the inclusion of Pasture 2 (Cox Well Pasture) in an Environmental Statement covering an ongoing grazing and range management program. While it is not at all clear in the Draft Statement, we have learned that no grazing has occurred within the past 10 to 15 years. We also received conflicting information as to whether or not the previous grazing was part of a Bureau of Land Management program. We believe that the grazing history of Pasture 2 should be clarified. We, of course, question the ability of the Bureau to adequately assess the effect on significant cultural resources of opening Pasture 2 to grazing based on the very minimal cultural resource data available.

Finally, as pointed out by the Advisory Council on Historic Preservation, we should formalize our agreement regarding acceptable mitigation measures for significant cultural resources for which adverse effects cannot be avoided. We would welcome any suggestions which you and your staff may have regarding appropriate mitigation measures to be included in this agreement.

[ ] Should you have any questions regarding our comments on the Draft Statement for

Page 2.

A the McGregor Area, do not hesitate to contact this office.

Sincerely,

Thomas W. Merlin  
State Historic Preservation Officer  
Historic Preservation Bureau

TWM:DER:jmg

cc: Louis S. Hall  
Glen DeGarmo  
Betsy Reed



BRUCE KING  
GOVERNOR

DAVID W. KING  
SECRETARY

STATE OF NEW MEXICO  
DEPARTMENT OF  
FINANCE AND ADMINISTRATION  
STATE PLANNING DIVISION

300 DON GASPAR AVENUE  
SANTA FE, NEW MEXICO 87503  
(505) 827-2073  
(505) 827-5191  
(505) 827-2108

ANITA HISENBERG  
DIRECTOR  
  
JOE GUILLEN  
DEPUTY DIRECTOR

July 17, 1980

Mr. Daniel C.B. Rathbun  
District Manager  
Las Cruces District  
Bureau of Land Management  
Post Office Box 1420  
Las Cruces, New Mexico 88001

Dear Mr. Rathbun:

As a result of the July 2 on-site inspection of proposed improvements on the McGregor Range, I wish to make the following comments regarding the effect of this undertaking on cultural resources.

The improvements being proposed include a road, well, and the three water troughs at the junction of Pastures 1, 2, and 3 in an archeologically sensitive area. These improvements have been located to avoid adverse effects of construction on the significant archeological resources located in the immediate area. It is also my opinion that the trough in Pasture 1 will be located a sufficient distance from a significant archeological site to adequately mitigate the obvious effects of cattle trampling commonly observed in the immediate vicinity of water sources.

However, the construction of a water source will undoubtedly result in concentrations of livestock in the area and increase the probability that significant archeological resources will be adversely affected by cattle trampling. While cattle trampling is recognized as having the potential to adversely affect archeological resources, we unfortunately have no quantitative data by which to judge whether or not these sites will be adversely affected 500 to 600 feet from the proposed trough locations.

Therefore, in the interest of developing a data base by which to judge the effects of cattle trampling on cultural resources, I support the efforts of the Las Cruces District to initiate studies of trampling effects. I believe that the plane table mapping and artifact recording being conducted by the District Archeologist at nearby sites will be adequate to mitigate any adverse effects resulting from trampling.

Mr. Daniel C.B. Rathbun  
July 17, 1980  
Page 2

I would also suggest that since Pasture 2 has not been grazed for ten to fifteen years there exists an opportunity to collect additional data on vegetation change and trail development at or near archeological sites. These studies should include sites located in open range situations as well as near water and forage sources, fences, corrals, and other areas where livestock can be expected to concentrate.

If you have any comments regarding my comments on this undertaking, do not hesitate to contact me. In the meantime, I will be looking forward to learning the results of the trampling studies.

Sincerely,



Thomas W. Merlan  
State Historic Preservation Officer  
Historic Preservation Bureau

TWM:DER:dg

ATTC-FEE

Mr. Daniel C.B. Rathbun, District Manager  
 U.S. Department of the Interior  
 Bureau of Land Management  
 P.O. Box 1420  
 Las Cruces, New Mexico 88001

Coordination	
1. BLM	Rathbun
2. Deputy	
3. Director	
4. BLM	
5. Service Center	
6. HQ	
7. DOD	
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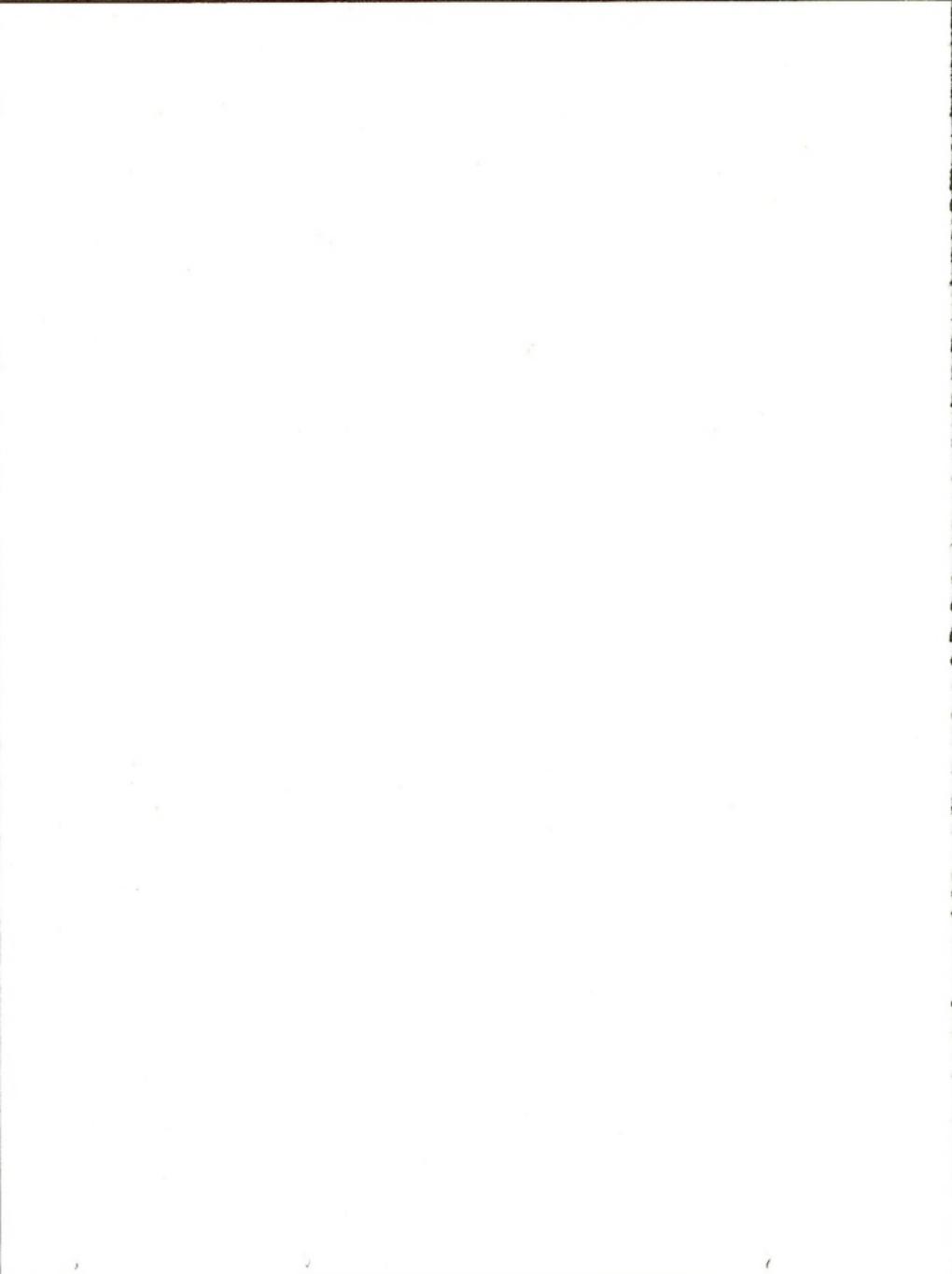
## COMMENTS TO DEIS

31-1 Fort Bliss offers the following suggested revisions:

1. Page 1-1. The number in paragraph 1, line 3, should be changed from 698,00 to 679,468.
2. Page 1-10. The meaning under the heading "Department of the Army (DOA)" may be clearer if the phrase "wildlife resources" in the second and fourth sentences is changed to "wildlife habitat."
3. Page 2-3. There seems to be an inconsistency in the square miles reported for the Alluvial Fans and Bolson areas on page 2-1 and these same areas as reported on page 2-3.
4. Page 2-4. The map (Figure 2-9) should incorporate the Impact Area Composite Map and the Missile Debris Scatter Zone, copies attached.
5. Page 3-35. It should be clarified how increased grazing would lead to fewer acres lost to fires resulting from missile crashes and other defense ordnance.
6. Page 3-35. The following information should be included in the first paragraph: During missile firing operations all personnel will be required to leave the impact areas. All cattle will be removed from the area during firing operations unless an agreement specifying otherwise is effected between the leasees and the Department of the Army.
7. Page 8-28. The information should be included that Alternative C would present a significant land-use conflict with the continued use of McGregor Range for military purposes. Most of the increased leasing areas would be within gunnery impact areas, where high potential for unexploded ordnance exists.

31-1 These comments were included in comment letter 12; refer to responses to that letter.

PART 2  
MODIFICATIONS AND CORRECTIONS  
TO THE DEIS



Part 2 of this Final Environmental Impact Statement (FEIS) contains revisions made to the Draft EIS based on new or more complete information, changes in BLM guidance since release of the Draft, or errors and omissions identified through the public review process. Minor changes are incorporated into the Errata section below. Where significant changes have been identified, the entire page has been reprinted, with the changes highlighted.

#### ERRATA

The following changes in the DEIS are of an editorial nature, and are relatively minor. Consequently, the affected pages have not been reprinted in full. These changes are to be incorporated into the DEIS. References to Paragraph 1 etc. indicate the first full paragraph on a page. If no paragraph is cited, the lines containing the change will be found in the first partial paragraph on the page.

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Throughout document. References to State Highway 506 (including maps) should be changed to State Road 506.

Page 1-6, paragraph 4, line 6. Change the benefit-cost ratio from 1.3 to 1 to 1.09 to 1.

Page 1-7, Table 1-1, item 11, after line 3. Add: Appropriate mitigation measures will be developed in consultation with the SHPO.

Page 2-17, paragraph 1, line 7. Change the number 68,391 to 71,660.

Page 2-28, paragraph 2, line 4. Change Eichert to Eicher.

Page 2-28, paragraph 4, line 1. Change counted to inventoried.

Page 2-29, paragraph 1, line 7. Add the following sentence at the end of the line: However, winterfat is not common on McGregor Range.

Page 2-34, paragraph 2, line 4. Rework sentence to add the phrase which covered about 25% of the range, as follows. "; it included transects as well as field checks of a previous study performed in 1976, which covered about 25% of the range."

Page 3-2, paragraph 3, line 11. Rework last sentence to add the phrase on McGregor Range, as follows. "Too little is known about antelope ecology on McGregor Range to identify key forage species."

Page 8-16, paragraph 2, line 4. Change seed survival to seedling survival.

Page 8-25, paragraph 4, line 6. Change seed survival to seedling survival.

Page 8-36, paragraph 4, line 6. Change seed survival to seedling survival.

Page 8-47, paragraph 6, line 6. Change seed survival to seedling survival.

Page 8-58, paragraph 4, lines 6-7. Change seed survival to seedling survival.

Appendix, page A-11, under Forbs. The scientific name for James rushpea should be Caesalpinia jamesii.

Glossary, p. G-2, following definition of CFS. Add the following definition: Channel erosion. The loosening or dissolving and removal of material from the banks, sides or bottom of a stream channel, through processes such as weathering, solution, corrosion, and transportation. Channel erosion can appear as active headcutting and degradation, eroding or sloughing banks, soil piping, and bank scour.

Glossary, p. G-12, following definition of Sediment. Add the following definition: Sediment transport. The shifting of sediment from one place to another by moving water or wind.

Glossary, p. G-14, following definition of Unifacial. Add the following definition: Upland erosion. An erosion form which occurs on sloping watershed lands beyond the confines of valleys. It includes sheet erosion (which involves the removal of a thin layer of soil over an extensive area, and is usually not visible to the eye), rills, wind erosion, downslope soil movement due to creep, and gully erosion.

References, page R-1, after Anderson. Add the following reference: APHA et al., 1975. Standard methods for the examination of water and wastewater. American Public Health Association, American Water Works Association, and Water Pollution Control Federation, Washington, D.C., p. 875 et seq.

References, page R-2, after Champie. Add the following reference: Coltharp, George B. and Leslie A. Darling, 1975. Livestock grazing - A non-point source of pollution in rural areas? In: Water Pollution Control in Low Density Areas, Proceedings of a Rural Environmental Engineering Conference, University Press of New England, Hanover, New Hampshire, pp. 341-358.

References, page R-3, after Gifford. Add the following reference: Gillespie, Jane, 1980. Personal communication. Department of Biology, University of New Mexico, Albuquerque.

References, page R-5, after second reference. Add the following reference: Langer, R.H.M., 1963. Tillering in herbage grasses. Herbage abstracts, 33:141-148.

References, page R-11, first line. Add the following reference: Wilson, Lee, 1973. Variations in mean annual sediment yield as a function of mean annual precipitation. American Journal of Science, 273: 335-349.

## CHAPTER 1. DESCRIPTION OF THE PROPOSED ACTION

### INTRODUCTION

This Environmental Impact Statement (EIS) analyzes the environmental consequences of implementing a grazing management program for the Co-use area of the McGregor Range. The Range covers 679,500 acres of withdrawn public lands and Army fee-owned lands in Otero County, New Mexico. Since 1957 the Range has been controlled by the Department of the Army (DOA), Fort Bliss, Texas. The Range is used for artillery and missile firing, desert maneuvers, and other military purposes. In 1966, DOA designated a portion of the Range as a Co-use area, in which grazing could be permitted under supervision of the Bureau of Land Management (BLM). Figure 1-1 shows the location of the Co-use area, which is the region studied in this EIS. The area contains 515,000 acres. Grazing is allowed in fourteen pastures, containing 271,000 acres. Thirteen of the pastures were developed in the 1960s. One pasture (#2) was grazed prior to 1957, when PLU 1470 withdrew the Range, and will again be available for grazing in 1980/1981; it is considered part of the existing grazing program. Figure 1-2 shows the location of these pastures, and the location of two additional areas discussed in the EIS, Area A (84,000 acres) and Area B (160,000 acres).

### OBJECTIVES OF THE PROPOSED ACTION

The proposed action is to implement a grazing management program for the Co-use area. Specific objectives are to:

1. maintain the present range condition and trend on areas having good to excellent range condition and stable to improving trend, and stabilize or improve the trend in other areas; and
2. increase the harvest of forage from 46,221 animal unit months (AUMs), to 60,000 AUMs for utilization by cattle, deer and antelope.

### COMPONENTS OF THE PROPOSED ACTION

As discussed in Chapter 2, BLM's existing management program maintains good environmental conditions on McGregor Range, but does not provide for the most effective distribution of livestock nor for the most efficient harvest of forage. To achieve these objectives, BLM would increase forage utilization, construct new water supplies to improve livestock distribution, and make minor modifications to the existing management program to improve livestock distribution. Existing wildlife population would benefit from the increased availability of water, and the more even distribution of livestock. The following actions would be taken over a 20-year period (from 1981 to 2000).

1. No more than 50 percent of key forage species would be utilized each year by all grazing animals, compared to about 32 percent at present (see p. 2-10). Key forage species for cattle, deer and antelope are listed on p. 3-2.

mented. FWS handles reports of animal damage or predation, compiles records, and carries out animal damage control practices on areas that have been authorized by BLM. To date there has been no need for predator control in areas where grazing has been allowed, and none is anticipated for the co-use area.

On December 20, 1979, BLM requested formal consultation with the FWS as provided by Section 7 of the Endangered Species Act of 1973. Regulations governing interagency consultation (43 CFR 870-876) require Federal agencies to enter into formal consultation if it is determined a Federal action would or may affect endangered or threatened species or their habitats. FWS replied on 11 January, 1980, and identified the Kuenzler hedgehog cactus and the peregrine falcon as listed endangered species which may exist within McGregor Range. No species proposed as endangered or threatened were identified and no critical habitat was identified.

#### STATE AND LOCAL PROGRAMS

New Mexico Department of Game and Fish (NMDGF). A cooperative agreement is in effect between BLM and NMDGF which requires NMDGF to be responsible for various aspects of wildlife management, including an annual survey of range condition, herds and wildlife abundance, designation of hunting seasons and enforcement of hunting regulations. In practice, however, BLM takes responsibility for necessary habitat studies. The proposed action is designed to increase the deer and antelope herds on the Range. NMDGF is unlikely to experience increased personnel needs or expenditures as a result of the proposed action. However, Department revenues may increase as more hunters are allowed on the Range.

New Mexico State University (NMSU). A cooperative agreement is in effect between BLM, DOA and NMSU. Under the agreement, NMSU would be responsible for research programs in four areas of black grama grasslands which are excluded from grazing (see Figure 2-9). The NMSU program would not be affected by the proposed action, because grazing will continue to be excluded from these research areas.

City of Alamogordo. Water rights for the Orogande pipeline are owned by the City of Alamogordo. To expand existing water use to serve new facilities along this pipeline, it would be necessary to secure permission from the City.

State Historic Preservation Officer (SHPO). A Programmatic Memorandum of Agreement dated January 14, 1980 by and between the Bureau of Land Management and the Advisory Council on Historic Preservation gives the State Historic Preservation Officer the opportunity to comment on BLM's New Mexico grazing program.

## CHAPTER 2. DESCRIPTION OF THE EXISTING ENVIRONMENT

### INTRODUCTION

Information on the existing environment of McGregor Range is available from: the Unit Resource Analysis (URA) prepared by the Bureau of Land Management (BLM) in 1977; an Environmental Impact Statement (EIS) on the military withdrawal of the Range (DOA, 1977); field studies performed in Summer, 1979 as part of this EIS; and other published and unpublished reports. The field studies are the primary source of data on the vegetation and wildlife resources of the Co-use area. The studies also provide information on soils, water, cultural resources and other environmental characteristics.

The degree of detail in the description of each resource relates directly to the degree of anticipated impacts. The level of detail is controlled to some extent by the following: most studies of McGregor Range have been at a reconnaissance scale; vegetation and wildlife data are very limited in areas A and B (Figure 1-2); and data on seasonal and long-term variations in environmental conditions are not available for most resources.

### NATURAL UNITS

A natural unit is an area with a certain typical pattern of landforms, soils and vegetation. Normally land-use patterns, wildlife habitats, cultural resources and other natural and man-made features are distributed (at least partly) according to natural units. The identification, mapping and description of the natural units of an area thus provides a very useful summary of environmental conditions on a regional scale.

The Co-use area of McGregor Range is divided into six distinctive natural units:

1. The Mountain Foothills unit (23.4 square miles) occurs at the north end of the Range and is an upland area with a characteristic pinyon-juniper woodland.
2. The Canyonlands unit (59.4 square miles) is the rugged, rocky lands which separate the Mountain Foothills from the lower country to the south and west.
3. The Mesa (171.1 square miles) is a gently rolling grassland in the southeastern portion of the Range.
4. The Rimlands unit (100.0 square miles) is the rugged, rocky area which separates the Mesa from the lower country to the west.
5. The Alluvial Fans unit (279.7 square miles) is sloping shrublands at the foot of the Canyonlands and Rimlands units.
6. The Bolson, or Basin (170.3 square miles), is the lowland area on the west side of the Range, characterized by the presence of relatively stable sand dunes.

4. 5,000 acres around most other water tanks (small acreages attributed to the efforts of concentrated cattle grazing and trampling).

BLM data from trend plots on the Range are insufficient to provide a quantitative measure of trend, but support the conclusion that trend is stable overall. Because the trend evaluation is generalized, no map or table was prepared for the EIS.

#### POISONOUS PLANTS

The field studies resulted in identification of 20 plant species which are classified as toxic for one or more kinds of animals (see Pettit et al. 1980). Thirteen of these are found on the Bolson, with desert baileya and garbanocillo being most prevalent at the time of the survey.

#### THREATENED OR ENDANGERED PLANTS

On December 20, 1979, BLM consulted with the U.S. Fish and Wildlife Service (FWS) regarding species which are listed or proposed to be listed as threatened or endangered. FWS replied on January 11, 1980, as follows. "Kuenzler hedgehog cactus (*Echinocereus kuenzleri*) - This endangered cactus is known from two populations in Otero, Chaves, and Lincoln Counties. The plants are found in pinon-juniper woodland on the east side of the Sacramento Mountains, in the vicinity of Elk and 50 miles to the north. Some populations are located on the Lincoln National Forest and may occur in the McGregor Grazing Unit." The species was not observed during the 1979 field studies. The lack of observation could reflect the scope of the studies, and is not an indication that the species is absent from the Range.

FWS (1978) listed four additional plant species which were proposed as endangered, and which may occur on McGregor Range. None of the species were so identified during the more recent coordination process, and therefore these species are not formally subject to the Endangered Species Act. However, they are discussed here for reference purposes. *Argemone pleicantha* var. *pinnatisepta*, a poppy, is found in a few canyons on the west slope of the Sacramento Mountains. Dog Canyon, north of the Co-use area, represents the southernmost known population of this plant. *Lesquerella aurea* and *L. valida* are members of the mustard family found in the southern Sacramento Mountains. The first species is associated with ponderosa pine forests, and therefore probably does not occur within the Co-use area. The second is typical of the pinyon-juniper foothills of Pastures 3, 4, 5 and 8. *Muhlenbergia villosa*, hairy muhly, was known only from the Trans-Pecos region of Texas until its discovery on the Otero Mesa escarpment (just west of Pasture 15) by Professor R. Spellenberg of NMSU. Its occurrence on the Range is associated with areas which have been protected from grazing for a number of years. None of the four species were observed during the 1979 field studies. The lack of such observations was expected, due to the scope and timing of the study, and is not an indication that the plants are absent from the area. A fifth species, *Penstemon alamoensis*, was reported by Prof. Spellenberg north of the Range. FWS is currently investigating its occurrence, and considers it a candidate for listing as threatened or endangered (personal communication, Roger Kologinsky, FWS botanist, June 18, 1980).

sion: Mountain Foothills, Canyonlands and Rimlands. The Mesa and Alluvial Fans are subject to moderate erosion rates (20 to 23 tons per acre per year gross erosion), while soil movement in the Bolson is very high (140 tons per acre per year gross erosion).

Estimates of water erosion in the Co-use area have been prepared using the methodology of the Pacific Southwest Inter-Agency Committee (PSIAC, 1968). The procedures followed and the results obtained are presented in Allen and Anderson (1980) and summarized in Appendix D (Table D-2). The rate of sediment yield is between 0.3 and 0.5 acre-feet per square mile per year throughout the EIS area. Sediment yields in each natural unit are included in Table 2-1 (see also Table 3-5).

#### COMPACTION

Qualitative observations during the field season indicate that near water facilities the soil is compacted over areas as large as 10 acres. On clay soils, the compaction could reduce infiltration capacity by as much as 50 percent. On most other soils the reduction could be 15 to 30 percent. There is no effect on sandy or gravelly soils. Because of the reduced infiltration, soil moisture is reduced in the vicinity of water supplies, and the survival potential of seedlings may be reduced slightly. In areas away from water the effects of grazing are to break up soil crusts, through trampling.

#### WATER

##### SURFACE WATER

Quantity. The Sacramento River is perennial north of the Range, with an annual flow of about 3,000 acre-feet (Titus, 1967). Diversions from the river provide about 67.25 acre-feet per year of potable water to Rim Tank, near Timberon. The tank is also supplied via pipeline with 56 acre-feet per year from Carrizo Springs, located in the southern part of Lincoln National Forest. A pipeline carries water from Rim Tank into the Co-use area with branches reaching all upland pastures except 8. The Orogrande municipal pipeline originates from Sacramento Lake, and carries an undetermined amount of water through Pastures 3 and 2.

During the spring snowmelt season, or in response to summer storms, the Sacramento River usually flows into the Range through Pasture 8. The remaining streams within the area generally originate in higher areas (such as the Mountain Foothills, Canyonlands or Rimlands) and carry flows only in response to storm rainfalls. The runoff rapidly infiltrates the channel beds of these streams, often before reaching lower natural units such as the Alluvial Fans. Earthen dams have been built across many channels and swales, creating small reservoirs or tanks. Some tanks with naturally fine-grained soil in the bottom may hold the infrequent runoff for several months, creating an important source of livestock and wildlife water. Siltation and cattle trampling of tank bot-

TABLE 2-8. WATER QUALITY (NEW TABLE: REPLACES DEIS TABLE 2-8)

mg/l = milligrams per liter; FTU = Formazin turbidity units; MPN/100 ml = most probable number per 100 milliliters; lt = less than; tr = trace; ND = not detected; TDS = total dissolved solids; N = nitrogen; Alk = alkalinity; Coli. = coliform.

	ALLUVIAL FANS		SURFACE WATER CANYONLANDS		RIMLANDS		MESA		GROUND WATER BASIN-FILL		SEDIMENTARY		PIPELINES	
	Range	Median	Range	Median	Range	Median	Range	Median	Range	Median	Range	Median	Range	Median
No. of samples <sup>a</sup> /	8		2		2		4		2		3		3	
pH	6.0-9.0	8.2	7.8-8.0	7.9	7.0-7.8	7.4	6.7-8.0	7.6	7.3-8.0	7.6	7.4-8.4	7.6	6.4-7.6	7.1
TDS in mg/l	87-279	134	177-218	198	133-357	245	143-190	187	1,020-2,040	1,530	326-442	384	258-354	269
Alk in mg/l as CaCO <sub>3</sub>	90-180	125	100-130	115	200-210	205	150-520	170	80-120	100	100-350	280	160-260	780
Hardness in mg/l as CaCO <sub>3</sub>	60-370	130	130-180	155	180-220	200	120-450	140	300-750	525	200-470	380	180-225	210
Chloride in mg/l	lt 2-60	8	lt 2-40	20	lt 2-50	25	lt 2-97	48	85-165	125	12.5-27	15	5-10	5
Sulfate in mg/l	ND-50	4	1-17	9	ND	ND	ND-3	1	450-1,900	1,175	125-150	150	ND-48	22
Iron in mg/l	ND-0.6	0.15	0.14-0.3	0.22	0.6-0.9	0.8	0.15-2.5	1.3	0.25-4.3	2.3	0.05-0.25	0.18	0.04-0.2	0.05
Nitrate in mg/l as N	ND-9	0.6	tr-4	2	0.6-1.0	0.8	ND-3	0.6	0.8- 15	7.9	0.8-2	1.2	ND-0.8	0.6
Fluoride in mg/l	ND-1.2	0.12	-	0.5	-	1.2	ND-0.2	0.05	0.3- 1.2	0.8	-	1.4	0.3- 0.4	0.3
Turbidity in FTU	50-1,200	250	20-50	35	20-40	30	60-550	280	10-20	15	4-20	10	ND-17	ND
Total Coli. in MPN/100ml	0-221	102	46-70	58	4-12	8	22-345	32	0	0	0	0	0-14	0
Fecal Coli. in MPN/100ml	0-26	6	0-2	1	0	0	0-33	4	0	0	0	0	0	0

a. Fluorides based on 6 samples in Alluvial fans; 3 each in Mesa and Pipelines; 1 each other units. TDS based on 3 Mesa and 2 Sedimentary samples

Source: Representative data taken from more detailed compilation in Jenkins and McGough (1980); that report includes information on sampling and analytical methodology.

EXISTING ENVIRONMENTLAND USELIVESTOCK GRAZING

Existing program. Prior to 1957, the Range had a grazing history similar to that of much of the southwestern U.S. A small number of large ranches used intermixed private and public lands to support cattle and sheep. When the Range was withdrawn in 1957, the Commanding Officer at Ft. Bliss did not allow grazing. However, the external boundaries were not fenced and livestock from surrounding areas continued to graze with no apparent harm. This trespass grazing was one reason for the Commanding Officer's decision to officially sanction grazing in a portion of the Range. The Co-use agreement allowing such grazing was signed in 1966 (see Appendix B).

Grazing was initiated in 1967. Pastures were defined by historical utilization. By 1970, BLM had developed the present management program, which allows approximately 9 months of grazing each year, usually from October 1st to June 30th. In the event one pasture is damaged by fire, a rested pasture may be put into service. In a typical year 4,500 cattle have utilized the Range and there have been about 40,000 AUMs of livestock grazing. When Pasture 2 is developed, these numbers should increase by about five percent. With Pasture 2, the number of cattle will average 4,627 per year. Total AUMs will average 42,060 per year. In addition about 4,765 deer (2,633 AUMs) and 253 antelope (160 AUMs) use the grazed area during at least part of the year. Decisions regarding pasture resting and allowable AUMs are made each summer by BLM's professional range management personnel. In general a conservative approach has been followed; for the Range as a whole, overstocking has been avoided. The result is a grassland and shrubland environment with a grazing capacity equal to or greater than most comparable land elsewhere in New Mexico.

The right to use the forage within the existing pastures is determined each year by competitive bidding at a public auction, under the provisions of the Federal Material Disposal Act of 1947, as amended. Income from the bidding is retained by BLM for maintenance of, and improvements to, the grazing lands of McGregor. In recent years bids have been around \$5 per AUM and total income has ranged between \$119,000 and \$238,000 per year. Appendix G provides information on the individual pastures, including the size, recent grazing use, and amount of money which the public has bid and paid to use the units. The Appendix also summarizes the amount and value of grazing which has occurred each year since 1967.

Because grazing leases are awarded to high bidders, and because the parcels are relatively large, lessees are generally large operators who purchase cattle prior to the grazing season and send or sell them to feedlots when the season is over. A few lessees are operators who have ranches in the vicinity of McGregor; these ranchers usually move their cattle to private land during the off-season. Most pastures are used for cow-calf operations; those with rough terrain are usually designated for yearling use by the BLM Area Manager.

[Material moved to p. 2-45].

Recreation use of the Range is detailed on p. 2-41. Four areas of near-pristine black grama grasslands have been set aside and represent an area where the primary land-use objective is to promote research. These areas contain fine examples of native vegetation and associated wildlife habitat. Grazing is excluded from these areas, which are used as a natural laboratory by NMSU scientists. The location of the four areas is shown on Figure 2-9; approximately 4,000 acres of land are protected.

The potential exists for minerals development and more intensive outdoor recreation. However, no development is likely as long as the Range continues to have a primary military mission.

#### TRANSPORTATION

Access to the Co-use area is principally via New Mexico State Road 506, a well-maintained dirt road entering the Range from U.S. 54 between El Paso and Alamogordo. In 1978, U.S. 54 carried an average of 2,414 vehicles per day through Orogrande. The 1978 average traffic count for New Mexico 506, between Orogrande and Pinon, was 54 vehicles per day (Wood, 1979). This represents about 550,000 vehicle miles per year. A major use of NM 506 is access to the Timberon recreational development, just northeast of the Co-use area. Many dirt roads and tracks intersecting NM 506 provide access to the grazing units. DOA and BLM blade these roads as needed. All access, including NM 506, is subject to occasional closing due to missile firings. These limitations apply to BLM personnel as well as to the general public.

#### SOCIO-ECONOMIC CONDITIONS

As discussed on p. 2-43, lessees are generally large operators who use McGregor for cow-calf or yearling operations. Since 1975, about 20 percent of the lessees have been from Otero County. Another 25 percent have been from elsewhere in the state (such as Torrance and Chavez Counties) and 44 percent have been from Texas. The remaining 11 percent have been from other states, generally California, Oklahoma, Arizona and Kansas. In the 1979-80 season, seven successful bidders grazed 12 pastures. One bidder from Texas grazed four units, and two bidders grazed two pastures each. Three lessees were from Texas or Oklahoma, three were from New Mexico but outside Otero County, and one operator was from Orogrande. Due to the bidding pattern, the lessees and the geographic area they are from varies widely from year to year, (see Table G-5).

The annual income to BLM from forage sales has ranged between \$119,000 and \$238,000 in recent years, and is utilized for the management of the grazing program. This income is about 0.10 percent of the total personal income in Otero County. Existing benefits to all lessees are about \$994,800 per year. In 1979-80, benefits to individual lessees will range from an estimated \$24,336 to \$274,800. The total benefits represent about 0.2 percent of the total value of New Mexico's beef industry, and 10 percent of the industry value in Otero County. Most of this income is received outside of Otero County, and most is

EXISTING ENVIRONMENTSOCIO ECONOMIC CONDITIONS

earned outside New Mexico. In addition to grazing benefits, there are benefits related to wildlife and recreation, specifically hunting. Dollar value of these benefits is estimated at \$62,900 per year.

There is no permanent population on the Range. Except for BLM personnel, the grazing program provides no direct employment. Lessee involvement is generally limited to delivery and round-up cattle, and to periodic observation/maintenance activity involve a few days per year of activity by ranchhands. Energy use associated with the grazing program is 2,800 gallons propane per year for well pumping plus an unmeasured use of gasoline for maintenance vehicles.

SOILSEROSION

Wind erosion and sediment yield would increase if the proposed action is implemented, because the increased utilization of forage would be associated with a small reduction in the protective effects of vegetation in areas near new water supplies. The effected acreage represents 0.4 percent of the Co-use area. The effects of wind erosion are quantified in Appendix D (Table D-1) and the effects on water erosion (sediment yield) are quantified in Appendix D (Table D-2). Both sets of effects are summarized in Table 3-5.

The wind erosion equation uses productivity as a measure of the protective effects of vegetation. Using the worst-case estimates of a ten percent decrease in productivity, wind erosion would increase by seven percent for the Co-use area (Table 3-5). The increase would be limited to the Alluvial Fans, Mesa and Bolson natural units. The actual change would be less than seven percent. In many instances, a decrease in productivity is accompanied by a change in cover, and the use of a productivity value in the wind erosion equation produces no bias in the estimate of erosion. However, under the proposed action, the reduction in plant cover for the entire area is estimated to average only 0.5 percent (see p. 3-18). While reduced productivity would reduce soil protection because of reduced litter, 50 percent utilization of forage would leave considerable debris in place, helping to protect the soil. Prediction of a two percent increase in wind erosion is consistent with the change in cover, and contains an allowance for the additional effects of reduced litter. The increase would result in a wind erosion rate of 22.0 million tons per year, compared to 21.6 million tons per year at present.

Application of the sediment-yield prediction procedure (PSIAC, 1968) leads to a prediction that sediment yield would increase by 8 percent in the area affected by the proposed action (Table 3-5). The largest absolute increase in sediment yield is predicted to occur in the Alluvial Fans. This increase is based on the more intensive land use resulting from increased grazing. The increase is overstated in the sediment yield calculations due to the assumption that forage utilization would increase to 50 percent equally throughout the grazed area. However, as shown in Table 3-4, there would be more acres in light and slight grazing than in heavy grazing. A value of five percent would represent a more reasonable upper limit for the increase in sediment yield resulting from the proposed action. On this basis, the impact of the proposed action would be to increase sediment yield in the Co-use area from 303.9 acre-feet per year to 319.1 acre-feet per year.

Both the wind and water erosion estimates reflect the general magnitude of change and are not absolute values. The changes would be limited to the 14 pastures; no effects would be observed in Areas A and B. Within the pastures, the effects would be almost exclusively limited to areas adjacent to new water facilities.

COMPACTION

Based on comparisons to existing water facilities, the soil within an area of up to 10 acres around new water facilities would be compacted by cattle trampling. Added to this would be scarring and disturbance of normal soil profiles by construction. The total affected area would be up to about 800 acres. This would decrease infiltration capacity, especially on clay soils, such as Kerrick and Cale soils of the upland areas, Reyab soils on Mesa swales, and Tome soils in the low areas of the Bolson. Based on field experience, the EIS team estimates the decrease in infiltration capacity on these soils to be on the order of 50 percent. Lozier and Holloman soils would also be sensitive to compaction. Smaller changes (on the order of 15 to 30 percent) would occur on most other soils, but little change would be expected on gravelly soils. The severity of the impact is mitigated by the fact that grazing does not occur in the wet season.

- The reduction in infiltration capacity would reduce soil moisture in the root zone, and where sizeable, could slightly reduce seedling survival. These impacts would add to the tendency for the 800 acres on near-water areas to be eroded and to have a reduction in vegetation production and cover (see p. 3-17). Such erosion impacts are not specifically reflected in the estimates given in Table 3-5. Because the affected areas are small, the magnitude of additional erosion would be small.
- In areas which are now lightly utilized, the effects of trampling might be to break up soil crusts and increase infiltration capacity and soil moisture slightly (Savory, 1978). The reduction in litter described on p. 3-18 would tend to reduce soil organic content and moisture-holding capacity slightly, and allow greater fluctuations in soil microenvironment (Whitman, 1971; Brown and Schuster, 1969). Increased runoff (p. 3-25) would also favor a decrease in soil moisture. On acres directly affected by construction, earthmoving activity would be expected to alter or destroy existing soil structures. Impacts would be greater where ripping equipment is used to penetrate caliche and fractured bedrock.

SUMMARY

- The use of predictive equations indicates that wind erosion and sediment yield would increase by seven and eight percent respectively. Professional judgement indicates more realistic increases would be two and five percent respectively. Soil structure would be destroyed at construction sites, and trampling would cause compaction and related physical changes on about 800 acres near new water facilities. Soil moisture and infiltration capacity would be reduced and erosion would increase near the new facilities. The total area of soil impacts is small, being 0.3 percent of the grazed Co-use area.

lots when the season is over. There would continue to be a few local operators who lease parcels near or adjacent to their lands. Most lessees would be from elsewhere in New Mexico or from adjoining states. Increased grazing would lead to less litter. The reduction in litter would reduce the amount of fuel available to feed range fires. Therefore there would likely be fewer acres of land lost to fires resulting from missile crashes and other defense ordnance. During missile firing operations, all personnel will be required to leave the impact areas.

Suitability. In the Canyonlands and Mountain Foothills natural units, improvements would be placed in areas which are presently rated as potentially suitable for grazing. For typical slope conditions in the units, the criteria indicate that areas which are within 0.6 miles of water would be suitable for grazing. If the proposed action is implemented, 50 percent of the area in these units would be within 0.6 miles of water (compared to 25 percent at present). The proposed action would thus double the acreage of suitable lands in the upland areas. Approximately 13,250 acres would change from potentially suitable to suitable. For the grazed area (271,000 acres), this would increase the total acreage rated as suitable from 229,650 to 242,900.

In the Mesa, Alluvial Fan and Bolson natural units, standard criteria indicate that almost all areas are classified as suitable. Therefore the proposed action would cause no change in the suitability rating. However, in practice, current grazing is concentrated within 2 miles of water in these units, and there are large areas of slight utilization at greater distances from water. The proposed action would provide reliable water within 2 miles of nearly all parts of all pastures. This would result in an increase in grazing on areas which are now lightly grazed because of distance to water. The extent of the increase is discussed in the vegetation section of this chapter.

#### OTHER USES

Research on black grama grass lands described on p. 2-45 would continue. Management activity would be expected to enhance wildlife land uses, especially through the expansion of the deer and antelope herds. Recreation impacts of the proposed action are described on p. 3-33.

#### TRANSPORTATION

The proposed action would involve 46.75 miles of new access roads or trails, which would increase access to sectors of the 14 pastures which are presently difficult to reach using conventional vehicles. The increase represents an addition of 15 percent to the existing road network. Additional cattle trucks and road construction equipment would increase traffic by a few vehicles for a few days of the year. This increase would have a negligible effect on the daily vehicle counts listed in Chapter 2.

SOCIO-ECONOMIC CONDITIONS

The proposed action would increase the income which BLM obtains from grazing fees. The expected increase would be from \$233,000 per year to \$315,000 per year, or about \$82,000 per year, assuming an average bid of \$5.50 per AUM. The increase would occur gradually over a 12-year period. The increase represents about 0.13 percent of the total personal income of Otero County. Benefits to lessees would increase from \$994,800 per year to \$1,493,700 per year, a gain of \$498,900 or 50 percent. The increased benefits would result from increases in AUMs, calf weight, and calf crops. The total benefits from the grazing program would represent 0.3 percent of the total value of New Mexico's beef industry and 14 percent of the industry value in Otero County. However, most of the income would continue to be received outside Otero County and earned outside New Mexico.

- Due to the bidding procedure and resulting erratic distribution of benefits from year to year, the proposed action would have no systematic social or economic impact on either specific geographic areas or particular operators.
- The proposed action would have no significant effect on the small amount of energy which is utilized as part of the existing grazing management program.

CULTURAL RESOURCES

Impacts associated with the proposed action (p. 3-33) would also occur with Alternative C. These include: increased trampling of cultural remains which are at or above the ground surface; minor damage to historic structures due to cattle rubbing; possible vandalism associated with access along new roads; possible increased damage by higher rates of wind and water erosion. The impacts would be especially significant in Pastures 1 and 3, which have a relatively high density of known habitation sites. All of the impacts discussed above would result in a reduction of information available for the study of human civilization in the past, but all would be minimized by locating new facilities away from particularly valuable sites.

VISUAL RESOURCES

After implementation of Alternative C, 450 square miles would remain in VRM Class III and 354.7 square miles would remain in VRM Class IV.

WILDERNESS

Application of Section 603(c) of FLPMA would prevent any adverse impacts on potential wilderness areas (see p. 2-40).

RECREATION

Since Alternative C would not result in any significant change in game bird populations, hunting potentials for game birds would remain unchanged. Big game hunting opportunities are assumed to increase in direct proportion to increases in deer and antelope populations. Specific increases in hunting related activities are listed on p. 3-34. To the degree that cultural resources are disturbed or destroyed, the potential for the eventual development of recreation-related cultural and natural history resource sites would be adversely affected. In the context of the existing and potential recreational use of the Range, these impacts would be minor.

LAND USE

Alternative C would expand the amount of land used for grazing purposes. The proposed action would conflict with continued use of McGregor Range for military purposes by introducing cattle grazing in Area A. In the view of Ft. Bliss these conflicts would be "significant", and further "most of the increased leasing area would be within Gunnery impact areas, where high potential for unexploded ordnance exists". The expanded management program would require more intensive involvement by operators, as described on p. 3-34. Increased grazing would lead to less litter, and there would likely be fewer acres of land lost to fires resulting from missile crashes and other defense ordnance.

TABLE G-5. GEOGRAPHIC DISTRIBUTION AND FREQUENCY OF USE BY OPERATORS ON THE MCGREGOR RANGE, 1971-1980.

Residence of Operator, by County	Number of Operators 1971-80	Number of bids 1971-80	Number of operators/cattle by year, 1971-80 <sup>a</sup>							
			1971	1972	1973	1974	1975	1976	1977	1980
New Mexico										
Otero	6	14	2/550	3/1100	1/300	1/400	1/400	1/400	3/1075	1/300
Dona Ana	4	4	3/1200		1/600					1/350
Eddy	2	4					1/400			1/775 <sup>b</sup>
Lea	1	1								1/800 <sup>b</sup>
De Baca	3	3			2/1500		1/500			
Torrance	5	15	2/850	3/1500	2/900	2/900	2/650	1/400	1/325	1/350
Lincoln	1	1	1/900							1/378
Chavez	7	17			1/500		2/700	4/1550	3/825	2/450
Luna	2	3		1/500	1/300	1/600				2/450
Hidalgo	1	1						1/200		
Union	1	2		1/500	1/900					
San Miguel	1	1						1/500		
Santa Fe	1	2			1/600	1/300				
Bernalillo	2	2			1/500			1/500		
Rio Arriba	1	1		1/400						
Texas										
El Paso	8	11			1/900	3/1700			3/1350	2/783 <sup>b</sup>
Other Counties (7 counties)	11	15				2/1400	1/800	2/900	7/2650	1/400
Arizona (3 counties)	3	5					1/600		2/700	1/400
California (1 county)	2	2						2/1600		1/267
Kansas (1 county)	1	1							1/575	
Oklahoma (1 county)	1	1								1/550 <sup>b</sup>

## Frequency of use by individual operator

	One Season	Two-Three Seasons	Four-Seven Seasons <sup>c</sup>	Comments
New Mexico				
Otero	4	1	1	1 operator used 7 seasons, will continue to use.
Dona Ana	4			
Eddy	1	1		
Lea	1			
De Baca	3			
Torrance	1	3	1	See comment; Santa Fe County. 1 operator used 7 times but has died and operation not ongoing.
Lincoln	1			
Chavez	2	4	1	1 operator here also later in Texas; total use 4 seasons.
Luna	1	1		
Hidalgo	1			
Union		1		
San Miguel	1			
Santa Fe		1		
Bernalillo	2			This operator later in DeBaca County; total use 3 seasons 1971-80.
Rio Arriba	1			
Texas				
El Paso	7	1		
Other Counties (7 counties)	9	2		See comments; Chavez County.
Arizona (3 counties)	2	1		
California (1 county)	2			
Kansas (1 county)	1			
Oklahoma (1 county)	1			

a. 1971, 1979 and 1980 - all bids for 9 month grazing season, other years for 6-9 month grazing seasons.

b. At least one operator has two or more pastures.

c. None more than 7 seasons.

Source: Data drawn from BLM McGregor Range Livestock Forage Contracts List 1971-1980.



IN REPLY REFER TO:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE

SE

POST OFFICE BOX 1306  
ALBUQUERQUE, NEW MEXICO 87103

June 4, 1980

MEMORANDUM

TO. State Director, Bureau of Land Management, P. O. Box 1449,  
Santa Fe, New Mexico 87501

Acting  
FROM: Regional Director, Region 2

SUBJECT: Formal Consultation on the McGregor Range Livestock Grazing  
Management Plan

This responds to your memorandum of March 12, 1980, requesting formal Section 7 consultation on the McGregor Range Livestock Grazing Management Plan. On December 20, 1979, the Bureau of Land Management requested from the Fish and Wildlife Service a list of proposed and listed species known or suspected to occur in or near the project area. The list was provided to the Bureau of Land Management by the Fish and Wildlife Service on January 11, 1980, and contained the peregrine falcon (*Falco peregrinus*) and the Kuenzler hedgehog cactus (*Echinocerus kuenzleri*). The Bureau of Land Management conducted a biological assessment and determined the Kuenzler hedgehog cactus would not be affected by either the proposed or two alternative grazing management plans, or the four alternative modifications of the proposed action. We concur with that assessment.

Information used to assist in this consultation consisted of in-house documentation and literature, the "Biological Assessment,": Chapters 1, 2, and 8 of the Draft Environmental Impact Statement and conversations with Bureau of Land Management personnel.

The McGregor Range covers 698,000 acres of withdrawn public lands and Army fee-owned lands in Otero County, New Mexico. Since 1957 the Range has been controlled by the Department of the Army, Fort Bliss, Texas and is used for artillery and missile firing, desert maneuvers, and other

military purposes. In 1966, the Department of the Army designated a portion of the Range as a Co-Use Area in which grazing could be permitted under supervision of the Bureau of Land Management. The Co-Use Area, covered by this consultation, contains 515,000 acres. Grazing is allowed on 271,000 acres of the area which has been divided into 14 pastures. Thirteen pastures were developed in the 1960's and one additional pasture will be available for grazing in 1981.

The three grazing management plans addressed by this consultation are: 1) Proposed Action; 2) No Action; and 3) Discontinue Grazing. The four alternative modifications of the proposed action are: 1) Add grazing in Area A; 2) change grazing season to October-March; 3) change grazing season to October-March, and reduce animal unit months (AUMs); and 4) reduce grazing in pastures 3, 4 and 5, and provide for summer grazing as necessary.

The objectives of the Proposed Action are: 1) Maintain the present range condition and trend on areas having good to excellent range condition and stable to improving trend and stabilize or improve the trend in other areas; and 2) increase the harvest of forage production from 49,877 AUMs to 60,000 AUMs for utilization by cattle, deer, and antelope. Over the next 20 years the Bureau of Land Management would achieve these objectives by constructing improvements to benefit livestock and wildlife and modifying existing management practices as needed to improve the distribution of grazing animals. Improvements would include replacement of 17 1/2 miles of existing pipelines, construction of 38 1/2 miles of new pipeline, 19 wells, 77 water troughs, 39 water storage tanks, 5 dirt tanks, and 46 3/4 miles of road. About 118 acres would be directly impacted by construction and 97 acres would be permanently altered.

Vegetation manipulation by approved mechanical and/or prescribed burning methods may be attempted where the objectives of the proposed action are not being met. An Environmental Assessment would be prepared prior to such actions and threatened and endangered species surveys would be required for each project site before construction. Implementation of the Proposed Action would be monitored to ensure that stated objectives are being accomplished. Modifications of the Proposed Action would require an Environmental Assessment before significant changes could be effected.

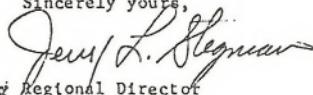
The peregrine falcon (Falco peregrinus) was listed as endangered on October 13, 1970. The decline of the species has been attributed primarily to pesticides in its food supply causing eggshell thinning, non-viable eggs, and increased adult mortality. Peregrine falcons feed largely on migratory birds and typically hunt riparian areas. Eyries are usually associated

with cliff environments and bluffs of gentle terrain. Although the long-term affect of the Proposed Action or its alternatives should result in improved habitat and an increased food supply for the peregrine falcon, the Biological Assessment determined that the presence of grazing cattle, or the presence of humans on horseback rounding up cattle near peregrine eyries could lead to reproductive failure of these birds. No peregrine falcons have been sighted in the McGregor Range Co-Use Area nor are any eyries known to exist in the area. However, without a comprehensive survey, the Bureau of Land Management concluded in their Biological Assessment that it is reasonable to suspect peregrine nesting on the McGregor Range and to expect the peregrine as a migrant or transient. The Department of the Army has contracted a peregrine falcon survey of the McGregor Range which, thus far, has not produced any sightings or eyries.

It is my biological opinion that if the policy safeguards for endangered and threatened species are employed as stated in the Draft Environmental Impact Statement, neither the Proposed Action nor any of the Alternative Actions are likely to jeopardize the continued existence of the peregrine falcon or adversely modify habitat essential to its survival. This opinion is being issued with the understanding that the Bureau of Land Management will survey site specific areas for listed species prior to construction of range developments or application of vegetative treatments and that appropriate steps will be taken to protect the welfare of any listed species encountered.

I appreciate the cooperation you have afforded us during this consultation. Further consultation is not required unless new information becomes available that addresses the welfare of the species discussed, new species are listed that may be affected by your action or the action is significantly modified.

Sincerely yours,



Jerry L. Stegman  
Acting Regional Director

cc: FWS, Washington, D. C. (OES)  
Phoenix Area Office, (SE), Phoenix, AZ  
Field Supervisor, (ES), Albuquerque, NM  
Director, New Mexico Department of Game and Fish, Santa, Fe, NM

Bureau of Land Management  
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